ATTACHMENT D

PROTECTED SPECIES DATABASE RECORDS

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
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Gloucester, VA 23061-4410
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http://www.fws.gov/northeast/virginiafield/

In Reply Refer To:
Project Code: 2022-0026968
Project Name: Dick and Willie Trail

April 01, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this

letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

Project Summary

Project Code: 2022-0026968
Event Code: None
Project Name: Dick and Willie Trail
Project Type: Recreation - Maintenance / Modification
Project Description: Dick & Willie Passage Phase 6A Trail Project in Henry County.
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.678633149999996,-79.84109486822469,14z

Counties: Henry and Martinsville counties, Virginia

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the

FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

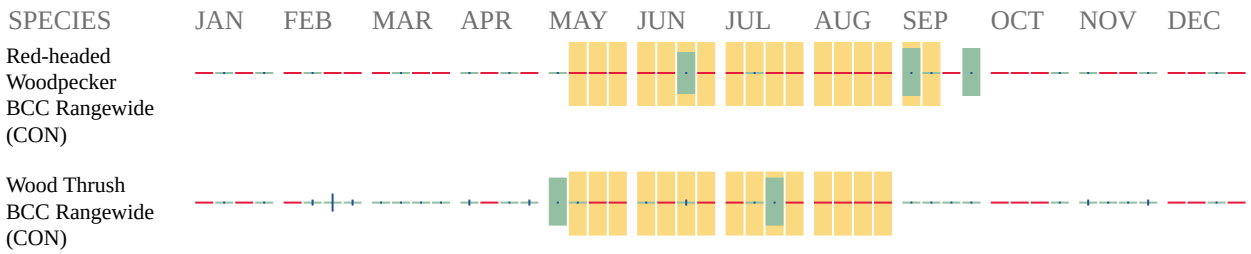
1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides

birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Species Conclusion Table

Project Name: Dick & Willie Trail Phase 6A - EN-15-044-035, P101, R201, M501, UPC: 107519, TAP-044-2(056)

Date: April 1, 2022

Prepared by: Ben Leatherland and Lauren White, Hurt & Proffitt

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Northern long-eared bat (*Myotis septentrionalis*), FT	Potential habitat present	May affect, not likely to adversely affect	No tree clearing is proposed during the April 15-September 15 time-of-year restriction (TOYR) period. Proposed trail corridor is within an existing/maintained (mowed) sanitary sewer line easement.
Critical Habitat	No critical habitat present		Per USFWS IPaC Official Species List, there are no critical habitats within the project area under USFWS Northeast region's jurisdiction.

VaFWIS Search Report Compiled on 4/1/2022, 11:07:15 AM

Help

Known or likely to occur within a **2 mile radius around point 36,37,26.4 -79,47,09.2** in **089 Henry County, VA**

View Map of Site Location

376 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 20) (15 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
060017	FESE	Ia	Spinymussel, James	Parvaspina collina		BOVA
010214	FESE	IIa	Logperch, Roanoke	Percina rex	Yes	BOVA,TEWaters,Habitat,SppObs,HU6
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA,HU6
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes	BOVA,TEWaters
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus		BOVA,HU6
010174		Ia	Bass, Roanoke	Ambloplites cavifrons	Yes	BOVA,Habitat,SppObs,HU6
040052		IIa	Duck, American black	Anas rubripes		BOVA,HU6
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140		IIa	Woodcock, American	Scolopax minor		BOVA,HU6
040203		IIb	Cuckoo, black-billed	Coccyzus erythropthalmus		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA
010131		IIIa	Eel, American	Anguilla rostrata		BOVA
030068		IIIa	Turtle, woodland box	Terrapene carolina carolina		BOVA,HU6
040100		IIIa	Bobwhite, northern	Colinus virginianus	Potential	BOVA,BBA,HU6
040202		IIIa	Cuckoo, yellow-billed	Coccyzus americanus	Potential	BOVA,BBA,HU6
040099		IIIa	Grouse, ruffed	Bonasa umbellus		BOVA

To view **All 376 species** View 376

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
Virginia Widlife Action Plan Conservation Opportunity Ranking:
a - On the ground management strategies/actions exist and can be feasibly implemented.; b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

View Map of All Query Results from All Observation Tables

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams

N/A

Impediments to Fish Passage

N/A

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters (13 Reaches)

View Map of All Threatened and Endangered Waters

Stream Name	T&E Waters Species					View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name				
Smith River (0329953)	FESE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (0329964)	FESE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (0330185)	FESE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (0330192)	FESE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (0331357)	FESE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (0332596)	FESE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (0332619)	FESE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (0332754)	FESE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (0335629)	FESE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (0340240)	FESE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (0341663)	FESE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes

		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (0341780)	FESE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (0347394)	FESE	010127	ST	IIb	Madtom, orangefin	Noturus gilberti	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Species Observations (21 records - displaying first 20 , 2 Observations with Threatened or Endangered species)

View Map of All Query Results
Species Observations

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
622501	SppObs	Oct 13 2014	Greg; Anderson| Brandon; Plunkett| AJ; Barnard| Zoey; Car	16	FESE	II	Yes
55295	SppObs	Sep 21 1998	Scott Smith, VDGIF	1	FESE	II	Yes
315310	SppObs	Jul 1 1999	DEQ	22		I	Yes
65923	SppObs	Jun 4 2002	Aaron Liberty, Brett Ostby, and Melissa Petty (collectors)	8		IV	Yes
67341	SppObs	Jun 4 2002	RICHARD NEVES AND MELLISSA PETTY, VA COOPERATIVE FISH AND WILDLIFE RESEARCH UNIT	7		IV	Yes
67342	SppObs	Jun 4 2002	RICHARD NEVES AND MELLISSA PETTY, VA COOPERATIVE FISH AND WILDLIFE RESEARCH UNIT	9		IV	Yes
335855	SppObs	Jan 1 1977	ACE-B-ARMY CORP. ENGIN.	8		IV	Yes
29278	SppObs	Jan 1 1900	Mitchell, J. C.	1		IV	Yes
623745	SppObs	Sep 22 2014	Greg; Anderson| Brandon; Plunkett| AJ; Barnard| Zoey ; Ca	19			Yes
623319	SppObs	Aug 25 2014	Greg; Anderson| Brandon; Plunkett| Zoey; Caroll| Beatric	13			Yes
622373	SppObs	Aug 11 2014	Greg; Anderson| Brandon; Plunkett| Lillian ; Shermerhor	17			Yes
623738	SppObs	Jul 7 2014	Greg; Anderson| Brandon; Plunkett| Lillian ; Shermerhor	7			Yes
622369	SppObs	Jul 7 2014	Greg; Anderson| Brandon; Plunkett| Lillian ; Shermerhor	8			Yes
65922	SppObs	May 24 2002	John McLeod, Brett Ostby, and Melissa Petty (collectors)	3			Yes
15406	SppObs	Jun 25 1981	BURKHEAD	16			Yes
337023	SppObs	Jan 1 1981	NMB-B-BURKHEAD	16			Yes
15239	SppObs	Jul 23 1979	PETRIMOULX	10			Yes
336705	SppObs	Jan 1 1979	HJP-B-PETRIMOULX	10			Yes
10513	SppObs	Jul 26 1977	Frankensteen	13			Yes
335856	SppObs	Jan 1 1977	ACE-B-ARMY CORP. ENGIN.	13			Yes

Displayed 20 Species Observations

Selected 21 Observations View all 21 Species Observations

Habitat Predicted for Aquatic WAP Tier I & II Species (9 Reaches)

View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species

Stream Name	Tier Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
Cobbs Creek (30101031)	FESE	010214	FESE	IIa	Logperch, Roanoke	Percina rex	Yes
Fall Creek (30101031)	FESE	010214	FESE	IIa	Logperch, Roanoke	Percina rex	Yes
Fall Creek (30101032)	FESE	010214	FESE	IIa	Logperch, Roanoke	Percina rex	Yes
Leatherwood Creek (30101031)	FESE	010174		Ia	Bass, Roanoke	Ambloplites cavifrons	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Leatherwood Creek (30101031)	FESE	010214	FESE	IIa	Logperch, Roanoke	Percina rex	Yes
Leatherwood Creek (30101032)	FESE	010174		Ia	Bass, Roanoke	Ambloplites cavifrons	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (30101031)	FESE	010174		Ia	Bass, Roanoke	Ambloplites cavifrons	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
		010432			Madtom, spotted-margin	Noturus insignis ssp 1	
Smith River (30101031)	FESE	010174		Ia	Bass, Roanoke	Ambloplites cavifrons	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (30101032)	FESE	010174		Ia	Bass, Roanoke	Ambloplites cavifrons	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
Smith River (30101032)	FESE	010174		Ia	Bass, Roanoke	Ambloplites cavifrons	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (2 records)

View Map of All Query Results
Virginia Breeding Bird Atlas Blocks

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE*	Highest Tier**	

32026	Martinsville East, SE	60		III	Yes
32025	Martinsville East, SW	1			Yes

Public Holdings:

N/A

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
089	Henry	329	FESE	I

USGS 7.5' Quadrangles:
Northwest Eden
Martinsville East
Northeast Eden
Axton

USGS NRCS Watersheds in Virginia:

N/A

USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
RD26	Smith River-Mulberry Creek	48	FESE	I
RD29	Lower Leatherwood Creek	46	FESE	I
RD30	Smith River-Fall Creek	47	FESE	I

Compiled on 4/1/2022, 11:07:15 AM I1174143.0 report=all searchType= R dist= 3218.688 poi= 36,37,26.4 -79,47,09.2

PixelSize=64; Anadromous=0.019093; BBA=0.037824; BECAR=0.017962; Bats=0.017997; Buffer=0.077529; County=0.056599; HU6=0.064634; Impediments=0.01801; Init=0.109705; PublicLands=0.021755; Quad=0.035504; SppObs=0.240317; TEWaters=0.031531; TierReaches=0.056865; TierTerrestrial=0.101856; Total=1.044326; Tracking_BOVA=0.150236; Trout=0.027994; huva=0.032638

Natural Heritage Resources

Your Criteria

Watershed (8 digit HUC): 03010103 - Upper Dan River

Subwatershed (12 digit HUC): RD26 - Smith River-Mulberry Creek

Search Run: 4/1/2022 11:22:30 AM

Result Summary

Total Species returned: 2

Total Communities returned: 1

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Upper Dan								
Smith River-Mulberry Creek								
TERRESTRIAL NATURAL COMMUNITY								
Northern Coastal Plain / Piedmont Oak - Beech / Heath Forest	Fagus grandifolia - Quercus (alba, montana, rubra) / Kalmia latifolia Forest	Fagus grandifolia - Quercus (alba, montana, rubra) / Kalmia latifolia Forest	G4	S3	None	None	21	N
VASCULAR PLANTS								
Sweet-shrub	Calycanthus floridus	Calycanthus floridus	G5	S1	None	None	11	N
Carolina alumroot	Heuchera caroliniana	Heuchera caroliniana	G3	S1	None	None	1	N

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an information request.

To Contribute information on locations of natural heritage resources, please fill out and submit a rare species sighting form.

ATTACHMENT E

CULTURAL RESOURCES RECORDS

Snapshot

Date Generated: April 01, 2022

Site Name: No Data
Site Classification: Terrestrial, open air
Year(s): 6500 - 3001 B.C.E
Site Type(s): No Data
Other DHR ID: No Data
Temporary Designation: No Data

Site Evaluation Status

Not Evaluated

Locational Information

USGS Quad: MARTINSVILLE EAST
County/Independent City: Henry (County)
Physiographic Province: No Data
Elevation: No Data
Aspect: No Data
Drainage: No Data
Slope: No Data
Acreage: No Data
Landform: Other
Ownership Status: No Data
Government Entity Name: No Data

Site Components

Component 1

Category: No Data
Site Type: No Data
Cultural Affiliation: Native American
Cultural Affiliation Details: No Data
DHR Time Period: Middle Archaic Period
Start Year: -6500
End Year: -3001
Comments: No Data

Bibliographic Information

Bibliography:

No Data

Informant Data:

No Data

CRM Events

Event Type: Other

Project Staff/Notes:

Middle Archaic added as temporal due to Guilford point as diagnostic; Woodland added due to pottery as diagnostic.

Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Unknown (DSS)
Investigator: WMCAR
Survey Date: 4/3/1997
Survey Description:

Depth not tested; probably shallow. A
small site, located 2.28 miles almost directly north of 44HR3 (Belmont) which is located a short distance above the point at which Mulberry Creek enters Smith River. Probably unrelated as pottery is dissimilar.

Current Land Use	Date of Use	Comments
Agricultural field	*No Data*	Site last cultivated several years age; now beginning to overgrow with blackberries and small trees.

Threats to Resource: No Data
Site Conditions: Site Condition Unknown
Survey Strategies: Informant
Specimens Collected: No
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:

2 sherds of crushed stone tempered, fabric impressed pottery, 1 sherds of same ware wwith fabric roughened surface, several eroded sherds of the same ware, a broken brown flint point (Guilford), the enamel cap from a cow's molar, several pieces of glazed earthenware (recent)

Summary of Specimens Observed, Not Collected:

sherds, flink flakes and chips, arrowheads

Current Curation Repository: No Data
Permanent Curation Repository: No Data
Field Notes: No
Field Notes Repository: No Data
Photographic Media: No Data
Survey Reports: No Data
Survey Report Information:

No Data

Survey Report Repository: No Data
DHR Library Reference Number: No Data
Significance Statement: No Data
Surveyor's Eligibility Recommendations: No Data
Surveyor's NR Criteria Recommendations, : No Data
Surveyor's NR Criteria Considerations: No Data

Event Type: Survey:Volunteer

Project Staff/Notes:

No Data

Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Unknown (DSS)
Investigator: Gravely, R.P.
Survey Date: 4/17/1969
Survey Description:

No Data

Threats to Resource: No Data
Site Conditions: No Data
Survey Strategies: No Data
Specimens Collected: No Data
Specimens Observed, Not Collected: No Data
Artifacts Summary and Diagnostics:
No Data
Summary of Specimens Observed, Not Collected:
No Data
Current Curation Repository: No Data
Permanent Curation Repository: No Data
Field Notes: No Data
Field Notes Repository: No Data
Photographic Media: No Data
Survey Reports: No Data
Survey Report Information:
No Data
Survey Report Repository: No Data
DHR Library Reference Number: No Data
Significance Statement: No Data
Surveyor's Eligibility Recommendations: No Data
Surveyor's NR Criteria Recommendations, : No Data
Surveyor's NR Criteria Considerations: No Data

ATTACHMENT F

CONSTRUCTION DRAWING EXCERPTS

THE DICK AND WILLIE PASSAGE PHASE 6A

HENRY COUNTY, VIRGINIA

VDOT PROJECT # EN15-044-035, P101,R201,M501 / UPC#: 107519

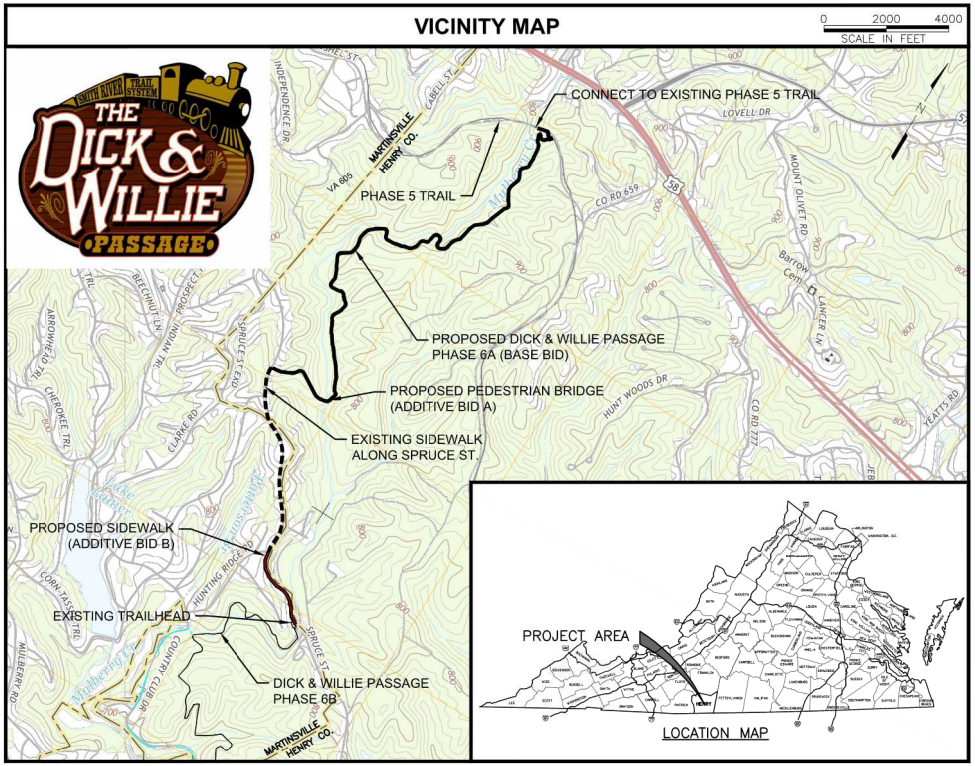
Federal #: TAP-044-2(056)

UPC#	FED#	VDOT PROJECT NUMBER
107519	TAP-044-2(056)	EN15-044-035,P101,R201,M501

HENRY COUNTY BID # TBD

VICINITY MAP

0 2000 4000
SCALE IN FEET



INDEX OF SHEETS:

	BASE BID	ADD A	ADD B
1. TITLE SHEET	X	X	X
2.- 2B. DETAIL SHEETS	X	X	X
2C.-2D. VDOT DETAIL	X	X	X
3. SHEET LAYOUT	X	X	X
3A.-3F. ALIGNMENT DATA SHEETS	X	X	X
4. PLAN AND PROFILE STA. 00+00-11+50	X		
5. PLAN AND PROFILE STA. 11+50-23+00	X		
6. PLAN AND PROFILE STA. 23+00-34+00	X		
7. PLAN AND PROFILE STA. 34+00-45+50	X		
8. PLAN AND PROFILE STA. 45+50-56+00	X		
9. PLAN AND PROFILE STA. 56+00-67+00	X		
10. PLAN AND PROFILE STA. 67+00-78+00	X		
11. PLAN AND PROFILE STA. 78+00-89+50	X		
12. PLAN AND PROFILE STA. 89+50-98+00	X	X	X
13. PLAN AND PROFILE STA. 98+00-107+42			X
13A. SIGHT DISTANCE CLEARING			X
14. ENTRANCE IMPROVEMENTS			X
15-16. SIDEWALK CONNECTION			X
17-25. EROSION & SETTLEMENT CONTROL PLANS	X	X	X
26. RETAINING WALLS	X		X
27-30. STORM PLAN AND PROFILE	X		
S-1. BRIDGE DETAILS		X	
31-32. TEMPORARY TRAFFIC CONTROL PLAN	X	X	X

TIER 1 PROJECT

LOCALLY ADMINISTERED PROJECTS

DATE | TITLE OF POSITION

(SIGNATURE)

NAME OF RESPONSIBLE LOCAL GOVERNMENT OFFICIAL (TYPED)

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION

DATE | TITLE OF POSITION

LEGEND

EXISTING		PROPOSED
4"W	WATER LINE	6"W
8"SS	SANITARY SEWER	8"SS
fm	FORCE MAIN	8"FM
18"	STORM SEWER	18"
2"g	GAS LINE	G
ugt	U/G TELEPHONE	UGT
uge	U/G ELECTRIC	UGE
oht	O/H TELEPHONE	OHT
ohp	O/H POWER	OHP
wm	WATER METER	WM
	VALVE	
	FIRE HYDRANT	
	UTILITY BOX	
	POWER POLE	
	GUY WIRE	
	SIGN	
	LIGHT POLE	
	MANHOLE	
	PROPERTY LINE	
	RIGHT-OF-WAY	
	CENTERLINE	

EXISTING		PROPOSED
2050	CONTOUR LINE	350
	EARTH DITCH OR SWALE	
	RAILING/ FENCE	
	PROPOSED TRAIL	
	POST	
	PT/PC	
	BENCHMARK	
	HORIZONTAL CONTROL	
	TREE	
	WOODS	
	GRAVEL ROAD/ PARKING	
	PAVEMENT	
	GRASS	
	CONCRETE	
	RIVER OR STREAM	
	DIRECTION OF FLOW	
	CONSTRUCTION ENTRANCE (VESCH STD. & SPEC. 3.02)	CE
	SILT FENCE (VESCH STD. & SPEC. 3.05)	SF
	INLET PROTECTION (VESCH STD. & SPEC. 3.07)	IP
	CULVERT INLET PROTECTION (VESCH STD. & SPEC. 3.08)	CIP
	TEMPORARY DIVERSION DIKE (VESCH STD. & SPEC. 3.09)	DD
	OUTLET PROTECTION (VESCH STD. & SPEC. 3.18)	OP
	ROCK CHECK DAM (VESCH STD. & SPEC. 3.20)	CD
	PERMANENT SEEDING (VESCH STD. & SPEC. 3.32)	PS
	TOPSOILING (VESCH STD. & SPEC. 3.30)	TO
	EC-2 OR EC-3 DITCH LINING	
	CONCRETE DITCH	

Abbreviations:

Bl:	Base Line	Pg.:	Page
Bnt:	Bent	Pks:	PK Traverse Nail Set
C&P:	Chesapeake & Potomac Telephone	PP:	Power Pole
Cl:	Center Line	P.T.:	Pressure Treated
Cmp:	Corrugated Metal Pipe	Pvc:	Polyvinylchoride Pipe
CY:	Cubic Yards	Rcp:	Reinforced Concrete Pipe
D.B.:	Deed Book	Samh:	Sanitary Sewer Manhole
Dip:	Ductile Iron Pipe	Stmh:	Storm Manhole
Fh:	Fire Hydrant	Std:	Storm Drop Inlet
Fnd:	Found	Stgr:	Storm Grate
Lp:	Light Pole	Tns:	Traverse Nail Set
MB:	Mail Box	Trs:	Traverse Rod Set
Ngas:	Natural Gas	Wm:	Water Meter
O.C.:	On Center	Wv:	Water Valve
P.B.:	Plat Book		

This project is to be constructed in accordance with the Virginia Department of Transportation 2020 Road and Bridge Specifications as well as the 2016 Road and Bridge Standards, the American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets, 2011; AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, July 2004; AASHTO Guide for the Development of Bicycle Facilities, 2012; the Virginia Work Area Protection Manual, 2011 (Revision 2); the Virginia Erosion and Sediment Control Handbook, latest edition; the 2009 Manual on Uniform Traffic Control Devices, (Revision 2) with 2011 VDOT supplement (Revision 1); The 2004 Standard Highway Signs and Markings Book, with 2012 Supplement and 2011 VDOT supplement (Revision 1); and the project plans and technical specifications.

LOCALITY CERTIFICATION

BY SIGNATURE OF A PERSON OF RESPONSIBLE CHARGE FROM THE LOCALITY, THE LOCALITY CERTIFIES THAT THESE PLANS ARE COMPLETE, CONSTRUCTIBLE, AND BIDDABLE

SIGNATURE DATE

TITLE

HURT & PROFFITT
1861 PRATT DRIVE, SUITE 1100
BLACKSBURG, VIRGINIA 24060
800.763.3596 TOLL FREE
540.552.3597 MAIN
540.552.3599 FAX
ENGINEERING • SURVEYING • LAND DEVELOPMENT • GEOTECHNICAL • CONSTRUCTION TESTING & INSPECTION • CULTURAL RESOURCES

TITLE SHEET

THE DICK & WILLIE PASSAGE

HENRY COUNTY, VA PLAN NO.:1025-01-C

PROJECT NO. 20171773
LAT.
LONG.
DATE: 27 March 2020
DRAWN BY: AWM, TWH
CHECKED BY: SES

COMMONWEALTH OF VIRGINIA
JEREMY MICHAEL JOHNSON
Lic. No. 0402050112
10 August 2020
PROFESSIONAL ENGINEER

Revisions
1 25 June 2020
2 10 August 2020

SHEET NO. 1

Aug 12, 2020 - 8:13am \\vdot01\projects\2017\20171773\VDOT\20171773_SHEET01_TITLE.dwg

EROSION AND SEDIMENT CONTROL NARRATIVE

1. Project Area

The project area lies within Henry County and a portion of the City of Martinsville, running generally parallel to Mulberry Creek. It is connected at the northern end to the existing Phase 5 portion of the Dick and Willie Passage, travels south along Mulberry Creek, until heading west over the creek onto the existing sidewalk along Spruce Street, then continuing south along Spruce Street, and includes new sidewalk to the existing trailhead of Phase 6B of the Dick and Willie Passage. The site consists of approximately 8.30 acres which will be disturbed to construct this project.

2. Critical Areas

The proximity of the entire project area to Mulberry Creek will require that particular attention is given to eliminating sediment laden runoff from the site into Mulberry Creek to the maximum extent practicable.

Silt fence will be installed wherever denuded surfaces may run off into Mulberry Creek or the contributing drainage ditch. To minimize the possibility of sediment runoff into Mulberry Creek, the slope is not to be denuded until immediately before construction of the greenway is to begin and permanently stabilized immediately following installation of the finished grade.

3. Soils

Soil information is provided by the NRCS Custom Soil Resource Report for Henry County, VA. Listed below are the soils identified on the site and in the contributing drainage area. See Appendix H of the Stormwater Pollution Prevention Plan for the full report.

- 4C Clifford sandy loam, 7 to 15 percent slopes
- 4D Clifford sandy loam, 15 to 25 percent slopes
- 4E Clifford sandy loam, 25 to 45 percent slopes
- 6A Colvard fine sandy loam, 0 to 2 percent slopes, occasionally flooded
- 14C Minnieville loam, 7 to 15 percent slopes
- 17E Orenda-Spriggs complex, 25 to 45 percent slopes

4. Erosion and Sediment Control Measures

The construction-phase erosion and sediment controls shall be designed to retain sediment on site to the maximum extent practicable. All control measures must be properly selected, installed, and maintained in accordance with the manufacturers' specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee must replace or modify the control for site situations. If sediment escapes the construction site, offsite accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts (e.g. fugitive sediment in street could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets). Litter, construction debris, and construction chemicals exposed to storm water shall be prevented from becoming a pollutant source for storm water discharges (e.g., screening outfalls, picked up daily).

The following measures will be used to control erosion and sediment-laden runoff on this project, and the full text is found in Appendix E of the Stormwater Pollution Prevention Plan.

1. Safety Fence: will prevent the public from entering the construction site. (VESCH Standard and Spec. 3.01)
2. Construction Entrance: will be used to reduce mud/sediment tracking onto public roads. If mud or sediment is transported onto a paved road surface, the road shall be cleaned thoroughly at the end of each day. Sediment and mud shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment and mud are removed in this manner. (VESCH Standard and Spec. 3.02)
3. Silt Fence: will be used to intercept and detain small amounts of sediment from disturbed areas during construction operations and to prevent sediment from leaving the site. (VESCH Standard and Spec. 3.05)
4. Storm Drain Inlet Protection: will be used to prevent sediment from entering the storm drain system prior to permanent stabilization of the disturbed area. (VESCH Standard and Spec. 3.07)
5. Culvert Inlet Protection: will prevent sediment from entering, accumulating in and being transferred by a culvert and associated drainage system prior to permanent stabilization of a disturbed project area. (VESCH Standard and Spec. 3.08)
6. Stormwater Conveyance Channel: will provide for the conveyance of concentrated surface runoff water to a receiving channel or system without damage from erosion. (VESCH Standard and Spec. 3.17)
7. Outlet Protection: will prevent scour at stormwater outlets, protect the outlet structure, and minimize the potential for downstream erosion by reducing the velocity and energy of concentrated stormwater flows. (VESCH Standard and Spec. 3.18)
8. Riprap: will protect the soil from the erosive forces of concentrated runoff and slow the velocity of concentrated runoff while enhancing the potential for infiltration and stabilizing slopes with seepage problems and/or non-cohesive soils. (VESCH Standard and Spec. 3.19)
9. Rock Check Dams: will aid in velocity reduction of concentrated stormwater flows, thereby reducing erosion of the swale or ditch. (VESCH Standard and Spec. 3.20)
10. Surface Roughening: will aid in establishment of vegetative cover with seed, reduce runoff velocity, and increase infiltration, while reducing erosion and providing for sediment trapping. (VESCH Standard and Spec. 3.29)
11. Topsoiling: will provide a suitable growth medium for final site stabilization with vegetation. (VESCH Standard and Spec. 3.30)
12. Temporary Seeding: Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant (undisturbed) for longer than 30 days. (VESCH Standard and Spec. 3.31)
13. Permanent Seeding: will be used to establish vegetative cover and to reduce silt runoff for any areas not paved or roofed. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year. (VESCH Standard and Spec. 3.32)
14. Mulching: will protect the soil surface from raindrop impact and reduce velocity of overland flow, and foster growth of vegetation by increasing available moisture and providing insulation against extreme heat and cold. (VESCH Standard and Spec. 3.35)
15. Soil Stabilization Blankets & Matting: will aid in controlling erosion on critical areas by providing a microclimate, which protects young vegetation and promotes its establishment. (VESCH Standard and Spec. 3.36)
16. Dust Control: will prevent surface and air movement of dust from exposed soil surfaces and reduce the presence of airborne substances which may present health hazards, traffic safety problems, or harm animal or plant life. (VESCH Standard and Spec. 3.39)

MINIMUM STANDARDS (MS-19)

All applicable Virginia Erosion and Sediment Control Regulations and Minimum Standards shall be adhered to during all phases of construction. If plan details and specifications are more stringent, then they shall supersede the Minimum Standards. The Minimum Standards include, but are not limited to the following:

1. STABILIZATION OF DENUDED AREAS:

Permanent or temporary soil stabilization shall be applied to bare areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade, but will remain dormant or undisturbed for longer than 14 days. Permanent stabilization shall be applied at areas that are to be left dormant for more than 1 year.

Applicable: The Contractor shall apply permanent seeding within seven days after reaching final grade. If Contractor elects to rough grade areas of the greenway or postpone permanent seeding until other sections of the greenway are complete which will remain dormant or undisturbed for more than 30 days, then temporary seeding shall be applied at the Contractor's expense.

2. STABILIZATION OF SOIL STOCKPILES:

During construction of the project, soil stockpiles shall be stabilized or protected with sediment trapping measures. The applicant is responsible for temporary protection and permanent stabilization of all soil stockpiles on site as well as soil intentionally transported from the project site.

Applicable: Due to limited space, existing easements, and floodplain limits, stockpiling on site will not be allowed. With approved property owner agreements obtained by the contractor, stockpiles will be allowed offsite. The Contractor shall provide the required E&S permits and temporary and permanent stabilization measures for areas offsite.

3. PERMANENT VEGETATIVE COVER

A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieve that, in the opinion of the local authority (City of Martinsville and/or Henry County), is uniform and mature enough to survive to inhibit erosion.

Applicable: The Contractor must seed and mulch all denuded areas per the project specifications. Over-seeding may be required at the Contractor's expense until an adequate ground cover is achieved as determined by City of Martinsville and/or Henry County. E&S measures shall not be removed until approved by the local authority. Areas of rutting shall be filled in and reseeded at the Contractor's expense.

4. TIMING & STABILIZATION OF SILT TRAPPING MEASURES:

Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land disturbing activity and shall be made functional before upslope land disturbance takes place.

Applicable: The Contractor shall install construction entrances, perimeter silt fence, and inlet protection on existing structures as noted on the plans prior to any land disturbance. Once proposed storm pipes are installed, culvert inlet and outlet protection shall be installed immediately after installation.

5. STABILIZATION OF EARTHEN STRUCTURES:

Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.

Not Applicable: No earthen structures are proposed for this project.

6. SEDIMENT TRAPS AND BASINS:

A sediment basin shall control surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres. The sediment basin shall be designed and constructed to accommodate the anticipated sediment loading for the land disturbing activity. The outfall device or system device shall take into account the total drainage area flowing through the disturbed area to be served by the basin.

Not Applicable: No sediment traps or basins are proposed since concentrated drainage crosses the greenway perpendicularly and there is minor land disturbance per outfall.

7. CUT AND FILL SLOPES:

Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.

Applicable: Prior to final acceptance, there shall be no evidence of excessive erosion and the cut/fill slopes shall be stabilized with permanent stabilization acceptable to City of Martinsville and/or Henry County. In the event that excessive erosion is present within one year after project acceptance, the Contractor shall be responsible for remediation.

8. CONCENTRATED RUN-OFF DOWN CUT OR FILL SLOPES:

Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume, or slope drain structure.

Applicable: Concentrated runoff is designed to flow down cut or fill slopes with existing or newly constructed ditches. In the event concentrated runoff is present prior to culvert and ditch installation, the Contractor shall provide temporary ditches or slope drains to accommodate the concentrated runoff to prevent erosion on cut and fill slopes.

9. WATER SEEPS FROM A SLOPE FACE:

Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.

Not Applicable: Based on site investigation, there are no existing water seeps within the project corridor. In the event water seeps are discovered, the Contractor shall notify the Engineer, City of Martinsville and/or Henry County and adequate drainage or other protection shall be provided.

10. STORM SEWER INLET PROTECTION:

All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.

Applicable: The Contractor shall protect the existing storm sewer system with inlet protection as shown on the plans. Inlets to proposed storm sewer must also be protected by inlet protection as shown on the plans. The Contractor shall protect proposed culverts from sediment laden water with culvert inlet protection as shown on the plans. All inlet protection shall be maintained until final completion.

11. STABILIZATION OF OUTLETS:

Before newly constructed stormwater conveyance channels are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.

Applicable: Concentrated runoff crossing perpendicular to the greenway requires a culvert and a riprap lined outlet ditch. In order to comply with this standard, The Contractor will be required to construct or reconstruct the outlet ditch from the end of the culvert and install temporary or permanent channel lining prior to the installation of the culvert. If construction activity allows the installation of the culvert and outlet ditch protection within the same day, then this will be an acceptable approach.

12. WORK IN LIVE WATERCOURSES:

When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Non-erodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by non-erodible cover materials.

Applicable: The Contractor will have to install riprap outlet protection within Mulberry Creek for several pipes. This work shall be performed using a non-erodible coffer dam and dewatering pump with filter bag to prepare the soils for installation of the geofabric and riprap. Once work is completed, all materials shall be removed from the watercourse.

13. CROSSING A LIVE WATERCOURSE:

When a live watercourse must be crossed by construction vehicles more than twice in any six month period, a temporary stream crossing constructed of non-erodible materials shall be provided.

Not Applicable: No live watercourses will be crossed.

14. APPLICABLE REGULATIONS:

All applicable federal, state and local regulations pertaining to working in or crossing live watercourses shall be met.

Not Applicable: Contractor shall be responsible for obtaining and maintain all required permits for work within Mulberry Creek.

15. STABILIZATION OF BED AND BANKS

The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.

Not Applicable: contractor shall limit disturbances to stream banks while performing installation of outlet protection and stabilize beds and banks with temporary or permanent seeding immediately after work is complete at each location.

16. UNDERGROUND UTILITIES:

Underground utilities shall be installed in accordance with the following standards in addition to other criteria:

a. No more than 500 linear feet of trench may be opened at one time.
b. Excavated material shall be placed on the uphill side of trenches
c. Effluent for dewatering operations shall be filtered or passed through approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or offsite property.
d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
e. Re-stabilization shall be accomplished in accordance with these regulations.
f. Applicable safety regulations shall be complied with.

Applicable: Storm sewer pipe shall be installed per these requirements for trenching. Additionally, adjustment of sanitary sewer manhole rim elevations is to be completed in accordance with these requirements for excavation safety and stabilization.

17. CONSTRUCTION ACCESS ROUTES:

Where construction vehicle access routes intersect paved public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto paved surfaces. Where sediment is transported onto a public road surface, the road shall be cleaned thoroughly at the end of each day. Sediment shall be removed by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual lots as well as to larger land disturbing activities.

Applicable: The Contractor shall install and maintain construction entrances as shown on the plans. In the event another construction access to the site is obtained by the Contractor, a construction entrance shall be installed and maintained at the Contractor's expense. When no longer utilized, the construction entrances shall be removed and the areas restored prior to final acceptance.

18. TEMPORARY E&S CONTROL MEASURE REMOVAL:

All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sediment.

Applicable: After the site is stabilized and approved by City of Martinsville and/or Henry County, silt fence, inlet protection, construction entrances, and other temporary E&S measures shall be removed within 30 days. The areas of removal shall be smoothly graded, seeded, and mulched. Any remaining buildup of sediment shall be removed from the site by the Contractor.

19. ADEQUACY OF RECEIVING CHANNELS:

Properties and waterways downstream from the development site shall be protected from sediment deposition, erosion, and damage, due to increases in volume, velocity and peak flow rates of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria:

a. Concentrated stormwater runoff leaving a development site shall be discharged into an adequate natural or man-made receiving channel, pipe, or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analysis at the outfall of the pipe or pipe system shall be performed.
b. Adequacy of all channels and pipes shall be verified in the following manner:

1. The applicant shall demonstrate that the total drainage areas to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or
2. Each of the following:
   a. Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks; and
   b. All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and
   c. Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system.
   c. If natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:
2. Improve the channel to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to the channel bed or banks; or
3. Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances; or
4. Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a ten-year storm to increase when runoff outfalls onto a man-made channel; or
5. Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the plan-approving authority to prevent downstream erosion.

d. The applicant shall provide evidence of permission to make the improvements.
e. All hydraulic analyses shall be based on the existing watershed characteristics and the ultimate development of the subject project.
f. If the applicant chooses an option that includes stormwater detention, applicant shall obtain approval from the locality of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance of the facility and the person responsible for performing the maintenance.
g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipaters shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.
h. All on-site channels must be verified to be adequate.
i. Increased Volumes of sheet flows that may cause erosion or sedimentation on adjacent properties shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.
j. In applying these stormwater runoff criteria, individual lots or parcels in a residential, commercial, or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.
k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical, and biological integrity of rivers, streams, and other waters of the state.

Applicable: The project is of a linear nature. Each outfall has been analyzed and found that there are minor increases in the peak flow rates. Per Virginia Stormwater Management Regulations, all drainage areas discharge less than 1% of the total drainage area at the point of analysis. Proposed ditches, pipes, storm sewer systems, and outfalls have been analyzed and found to be adequate. The receiving channel is Mulberry Creek.

EROSION AND SEDIMENT CONTROL LEGEND
(VDOT STANDARDS)

- (SAF) 3.01 SAFETY FENCE
- (CE) 3.02 CONSTRUCTION ENTRANCE
- (SF) 3.05 SILT FENCE
- (IP-A)(IP-B) 3.07 INLET PROTECTION (EC-6)
- (IP-C) 3.08 CULVERT INLET PROTECTION (EC-6)
- (OP) 3.18 OUTLET PROTECTION (EC-1)
- (RR) 3.19 RIPRAP (PG-3)
- (CD-1)(CD-2) 3.20 ROCK CHECK DAMS (EC-4)
- (SR) 3.29 SURFACE ROUGHENING
- (TO) 3.30 TOPSOILING
- (TS) 3.31 TEMPORARY SEEDING
- (PS) 3.32 PERMANENT SEEDING
- (TP) 3.38 TREE PROTECTION
- (DC) 3.39 DUST CONTROL

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EROSION & SEDIMENT CONTROL PLANS
E&S AND MS-19 NARRATIVE
THE DICK & WILLIE PASSAGE
HENRY COUNTY, VA PLAN NO.: 1025-01-C

PROJECT NO.	20171773
LAT.	
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DATE:	27 March 2020
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COMMONWEALTH OF VIRGINIA
JEREMY MICHAEL JOHNSON
Lic. No. 0402050112
10 August 2020
PROFESSIONAL ENGINEER

Revisions	
1	25 June 2020
2	10 August 2020
3	10 August 2020

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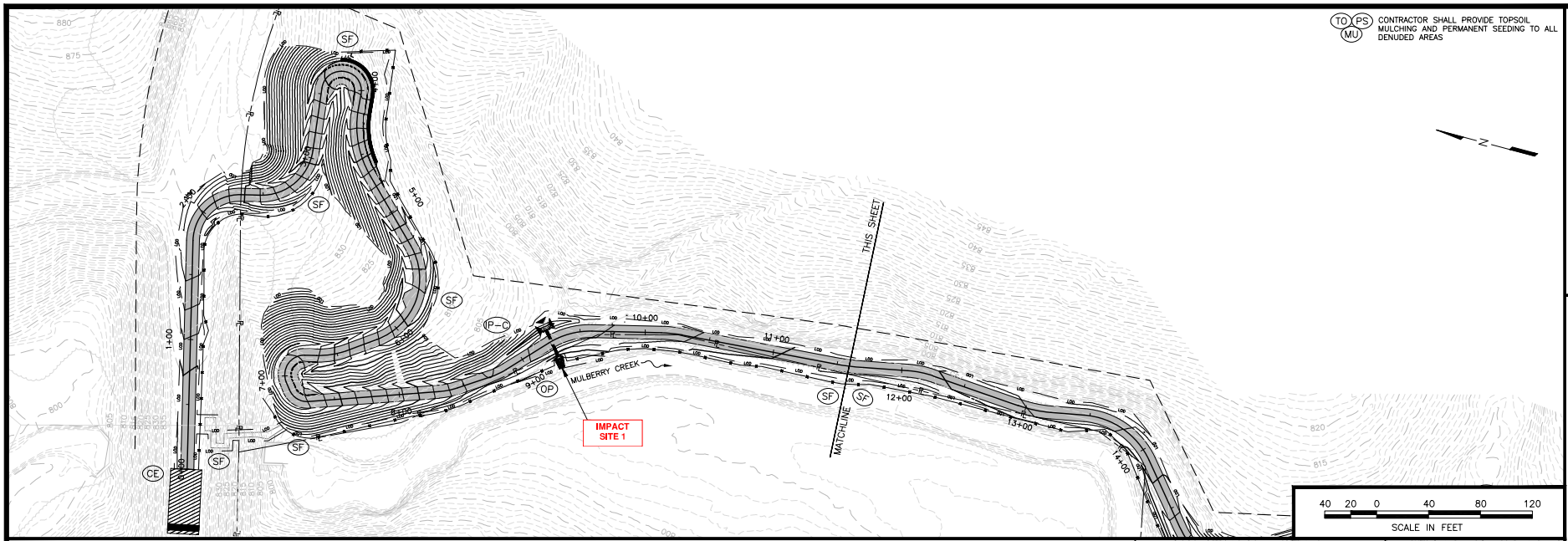
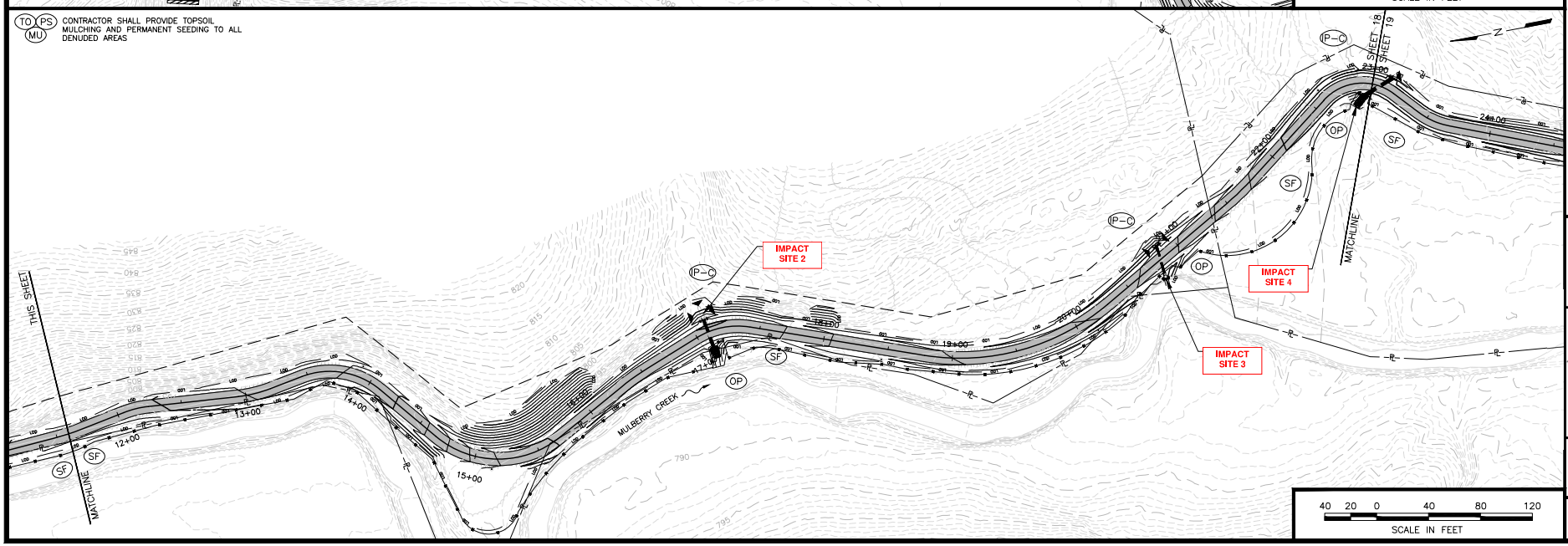
17





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EROSION & SEDIMENT CONTROL PLANS
STA. 0+00 TO 23+00
THE DICK & WILLIE PASSAGE
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1	25 June 2020
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SHEET NO.
18

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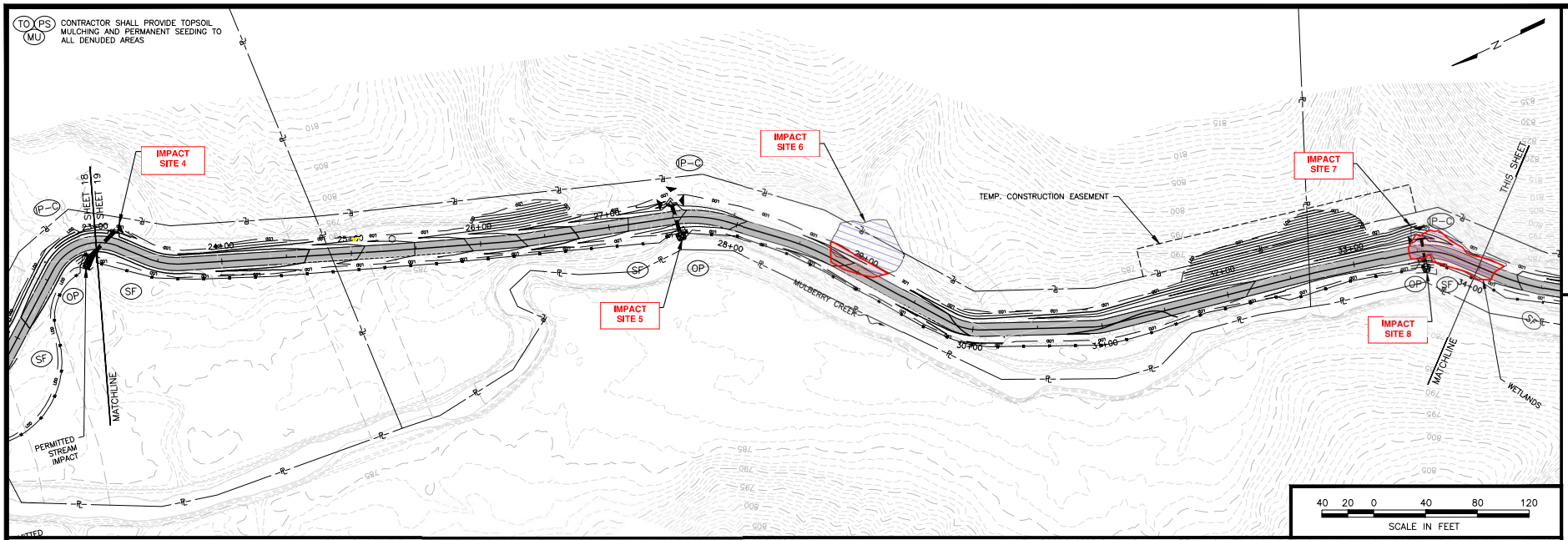

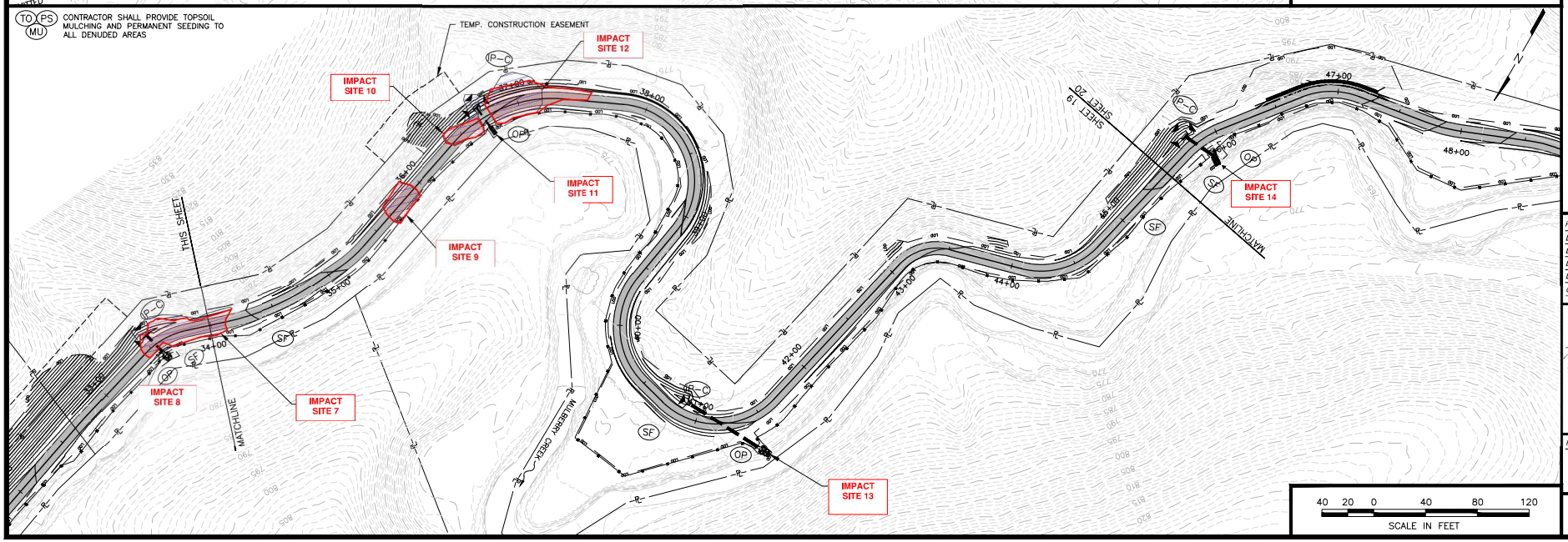

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EROSION & SEDIMENT CONTROL PLANS
STA. 0+00 TO 45+50
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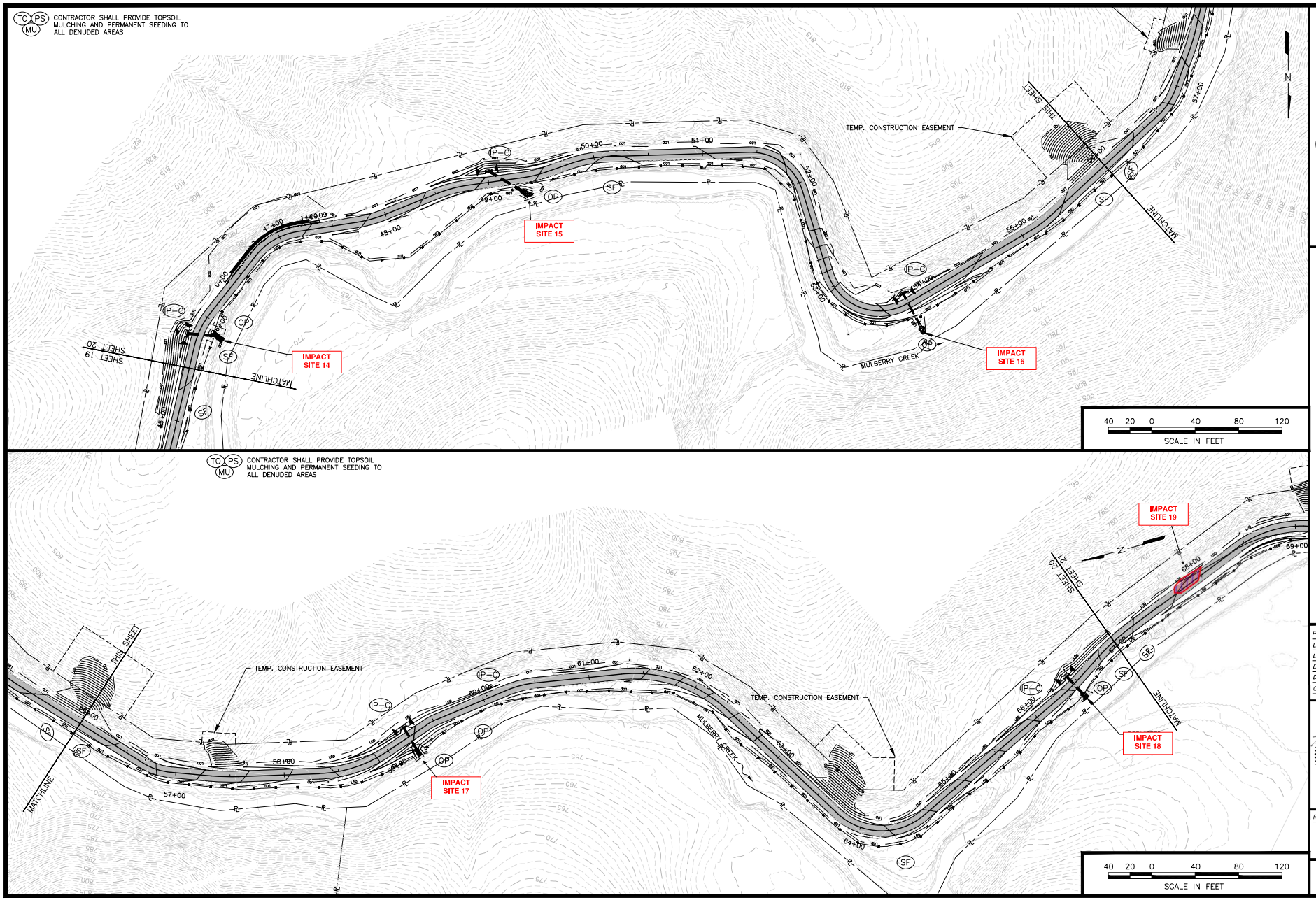

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EROSION & SEDIMENT CONTROL PLANS
STA. 45+50 TO 67+00
THE DICK & WILLIE PASSAGE
HENRY COUNTY, VA PLAN NO.: 1025-01-C

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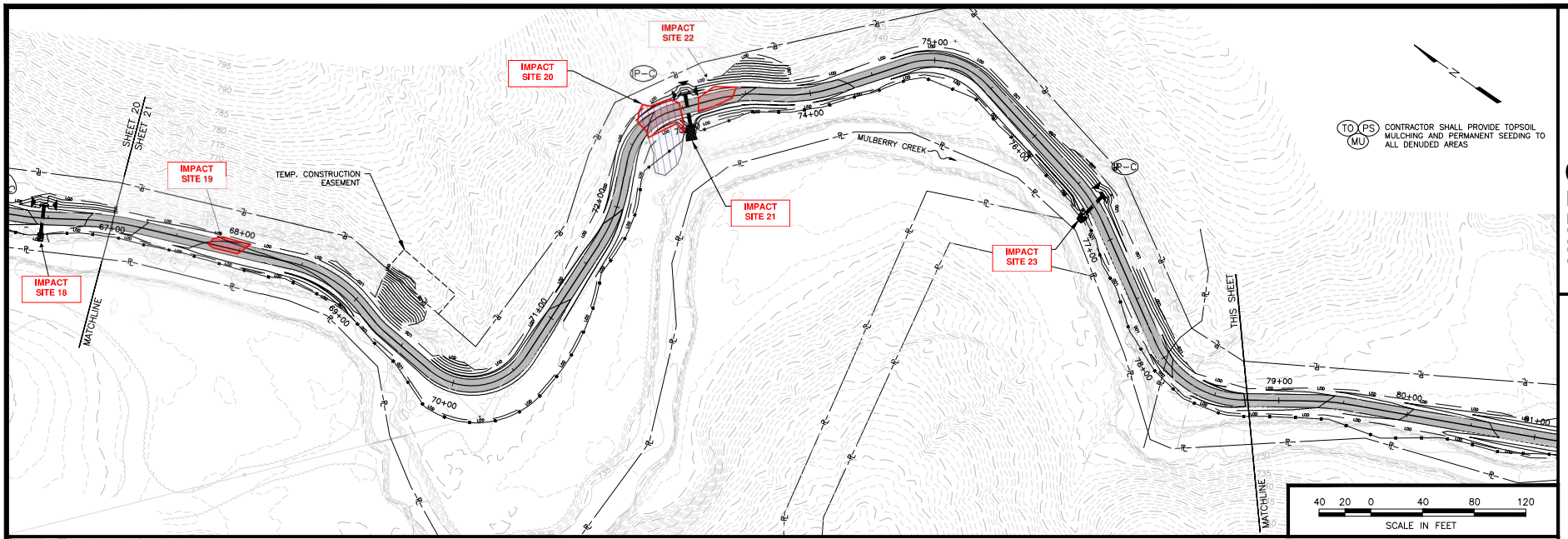

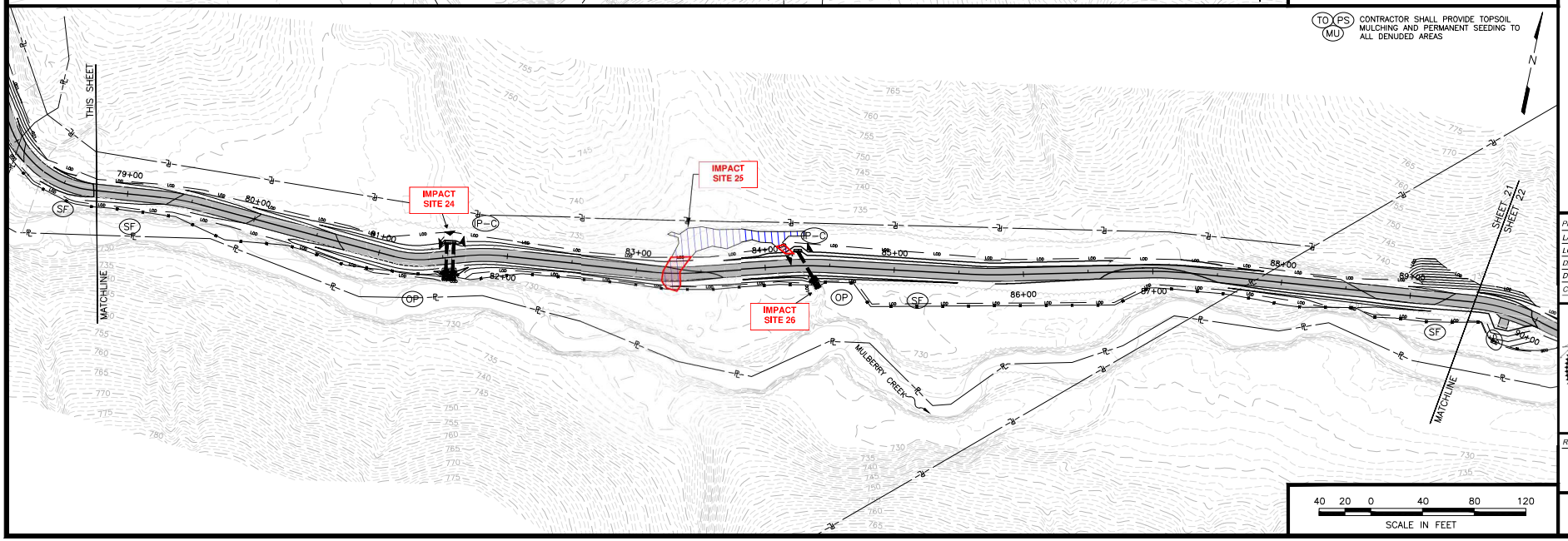

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EROSION & SEDIMENT CONTROL PLANS
STA. 67+00 TO 89+50
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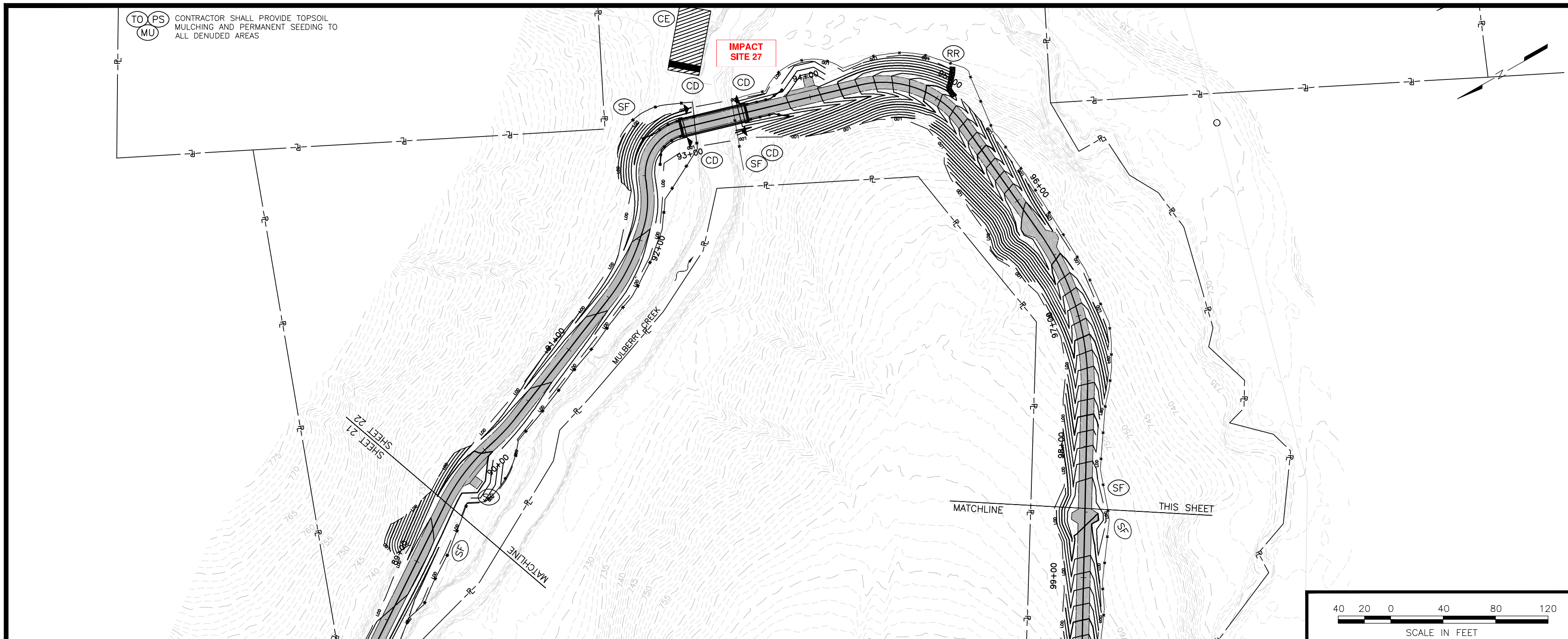

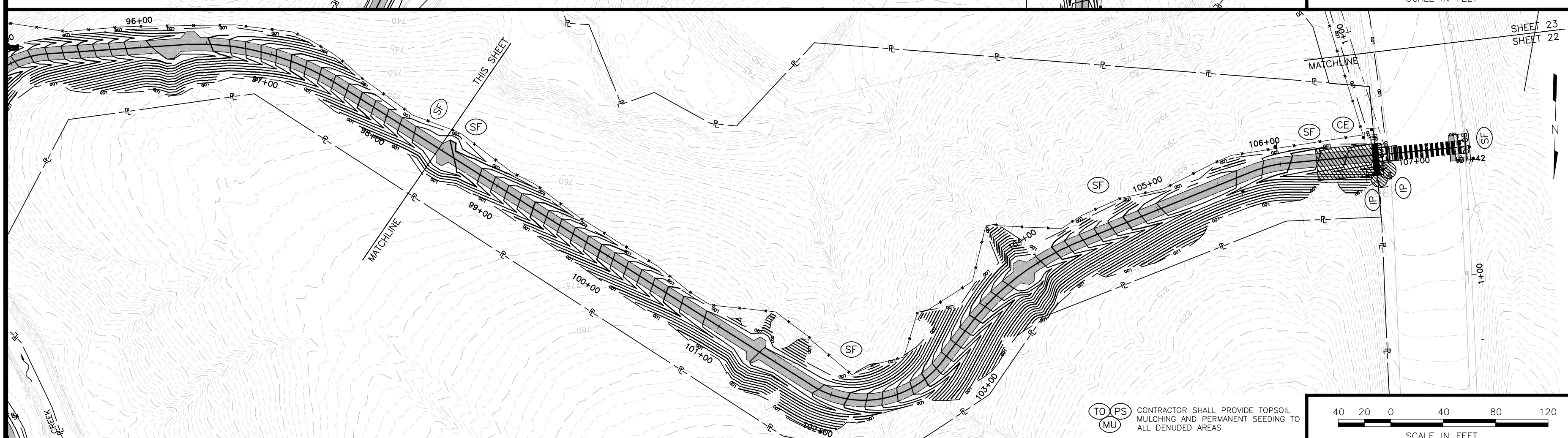

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EROSION & SEDIMENT CONTROL PLANS

STA. 89+50 TO 107+42

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SHEET NO.
22

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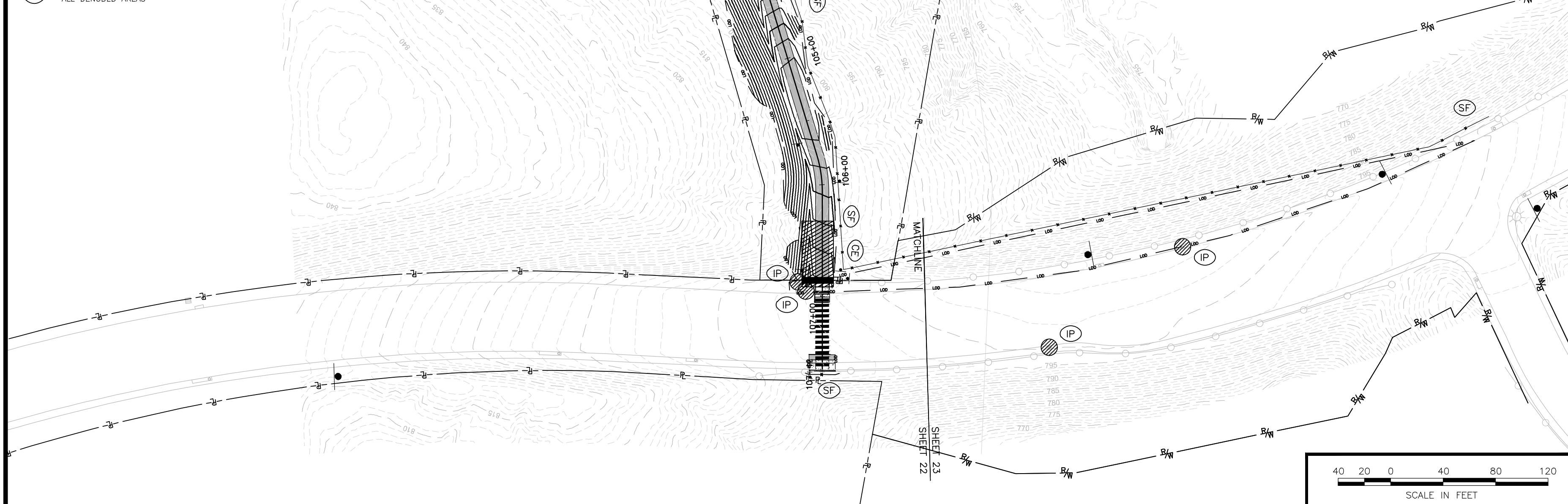
TO PS MU CONTRACTOR SHALL PROVIDE TOPSOIL MULCHING AND PERMANENT SEEDING TO ALL DENUDED AREAS



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THE DICK & WILLIE PASSAGE

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SHEET NO.
23

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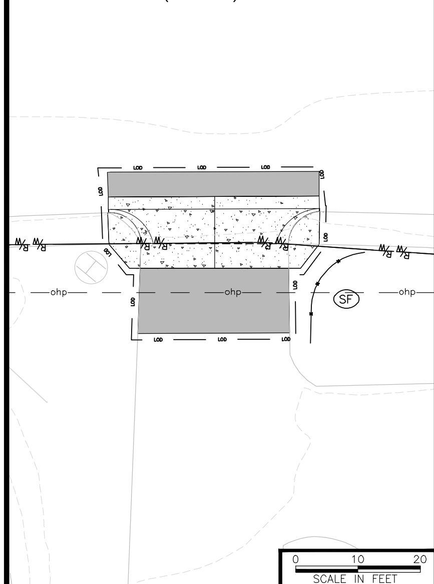
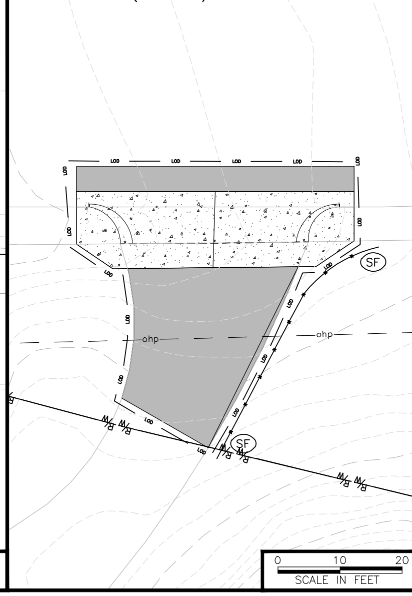
CG-9D ENTRANCE E-1 DETAIL
(24' WIDE)



CG-9D ENTRANCE E-2 DETAIL
(30' WIDE)



CG-9D ENTRANCE E-3 DETAIL
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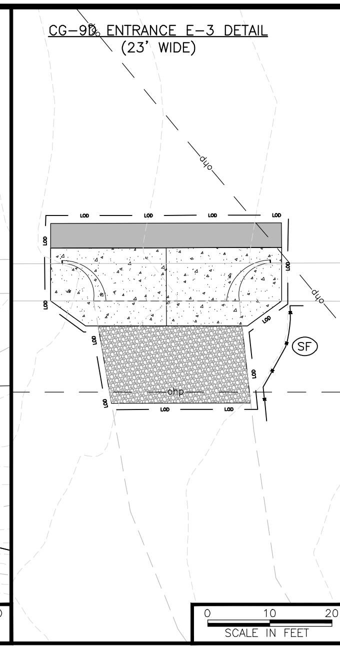

CG-9D ENTRANCE E-4 DETAIL
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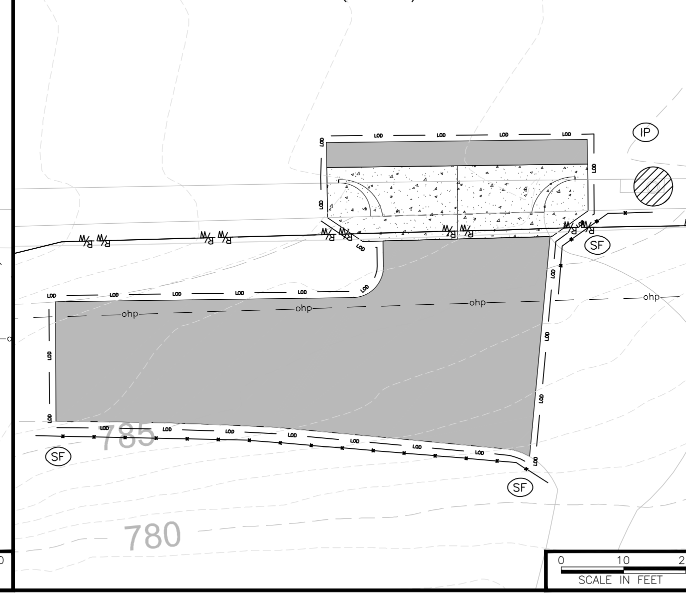

TO PS MU CONTRACTOR SHALL PROVIDE TOPSOIL MULCHING AND PERMANENT SEEDING TO ALL DENUDED AREAS

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EROSION & SEDIMENT CONTROL

THE DICK & WILLIE PASSAGE

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24

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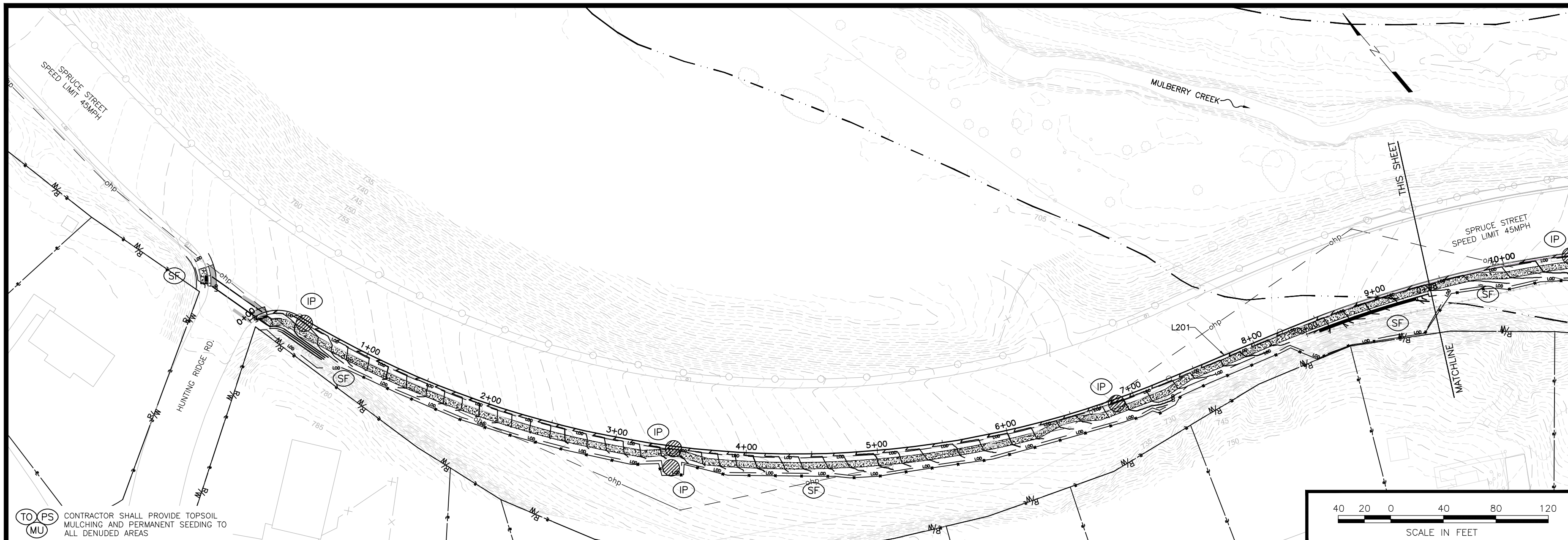

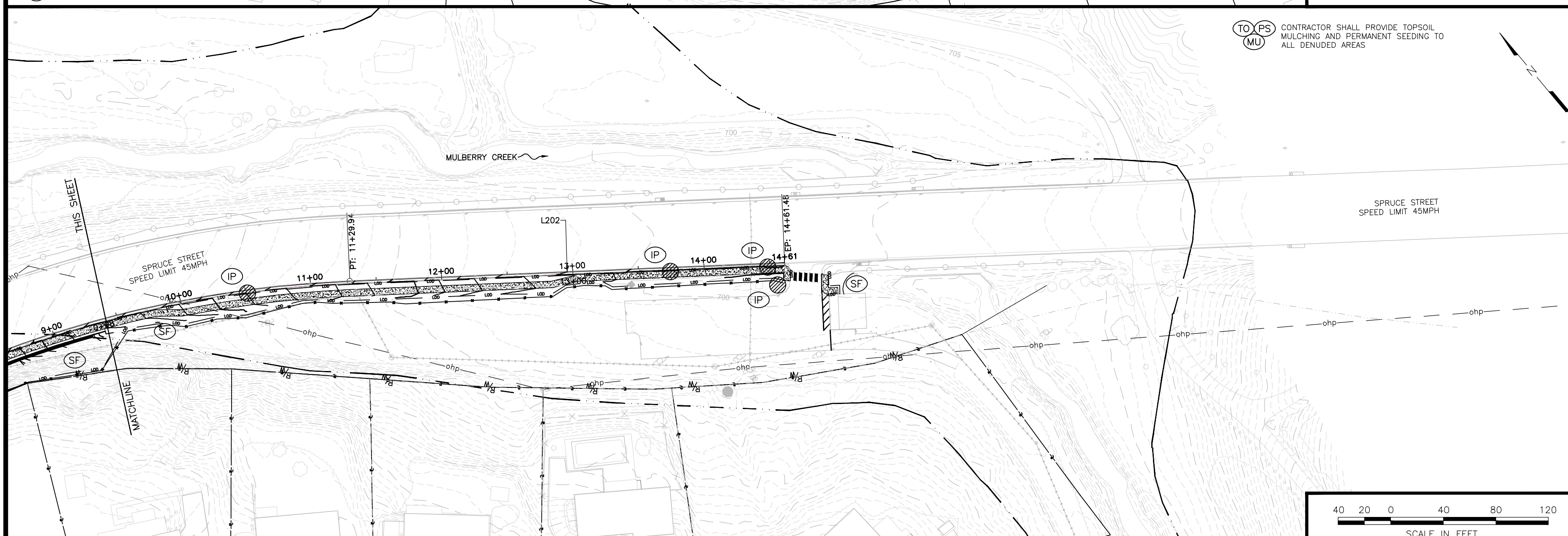

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EROSION & SEDIMENT CONTROL PLANS
PROPOSED SIDEWALK IMPROVEMENTS
THE DICK & WILLIE PASSAGE
HENRY COUNTY, VA PLAN NO.: 1025-01-C

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25

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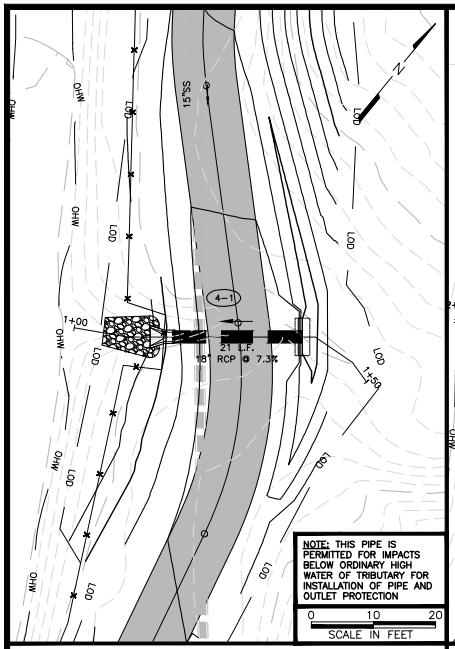

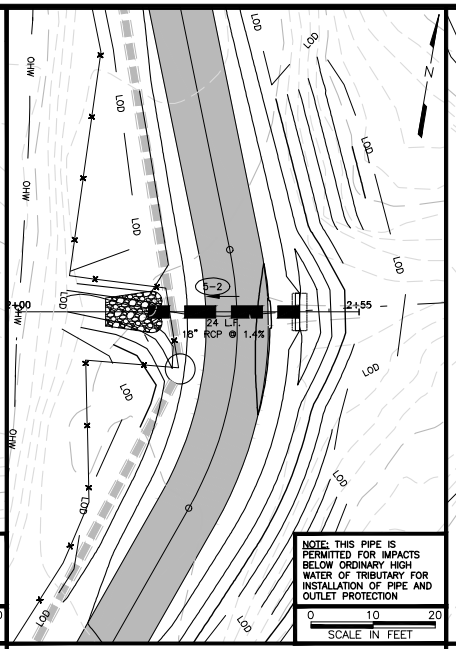

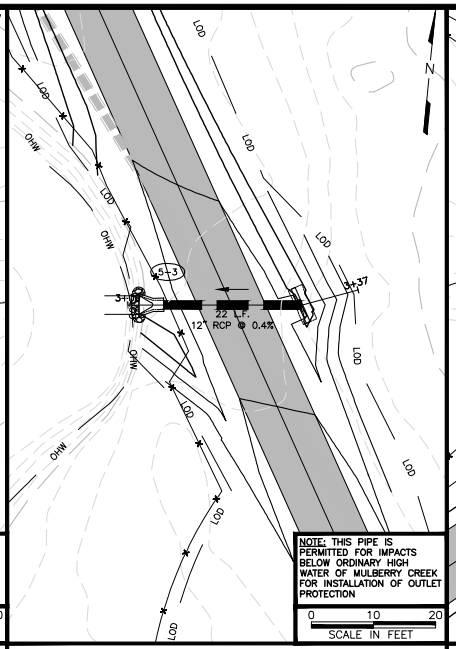

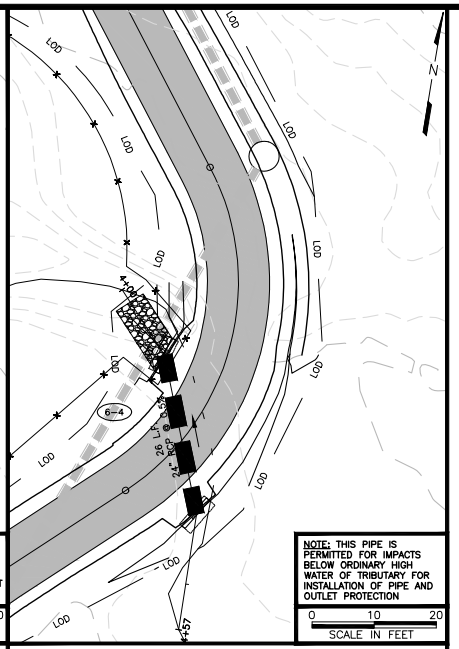

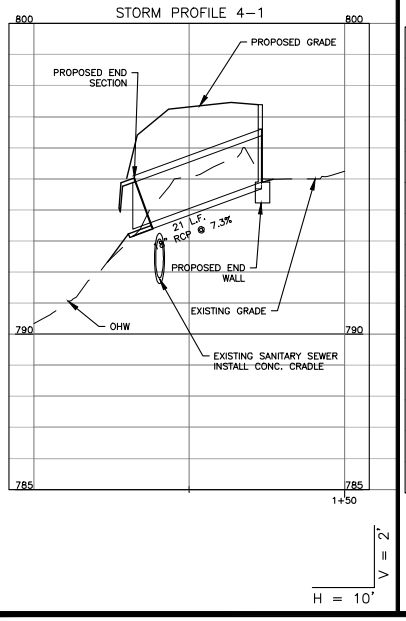

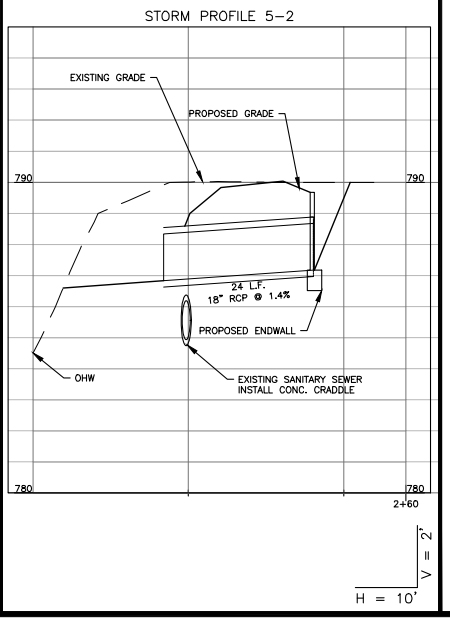

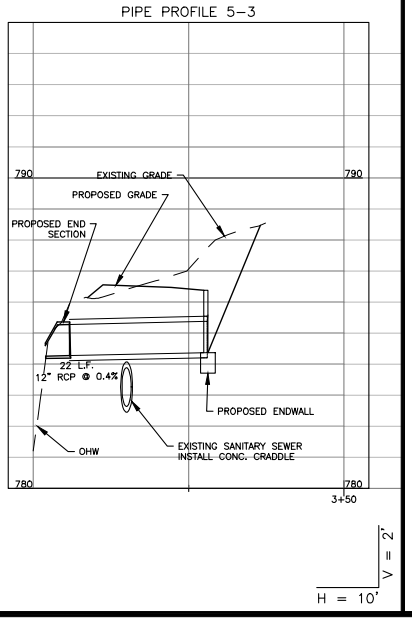

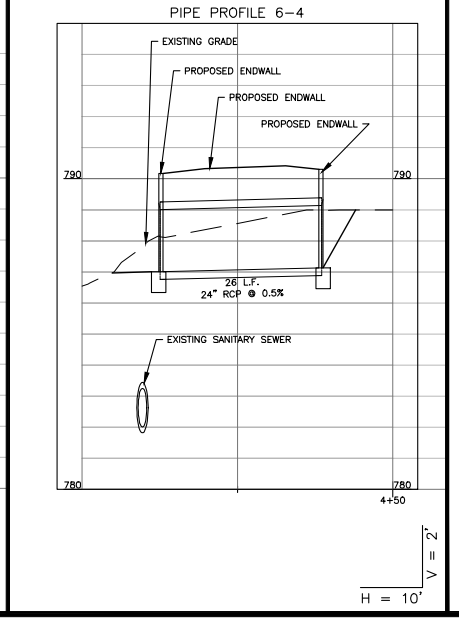

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STORM PLAN AND PROFILE

THE DICK & WILLIE PASSAGE

HENRY COUNTY, VA

PROJECT NO.	20171773
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2	10 August 2020

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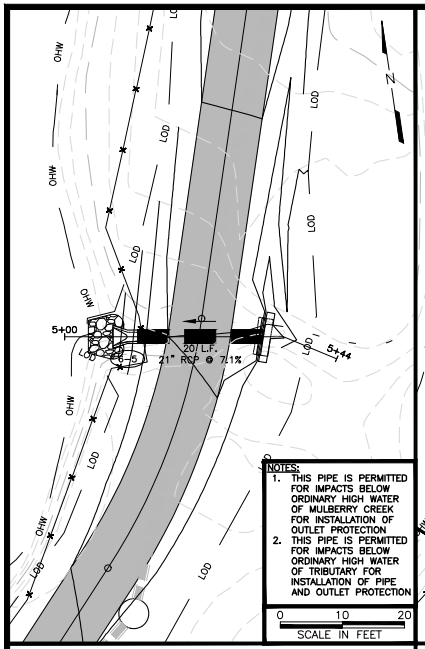

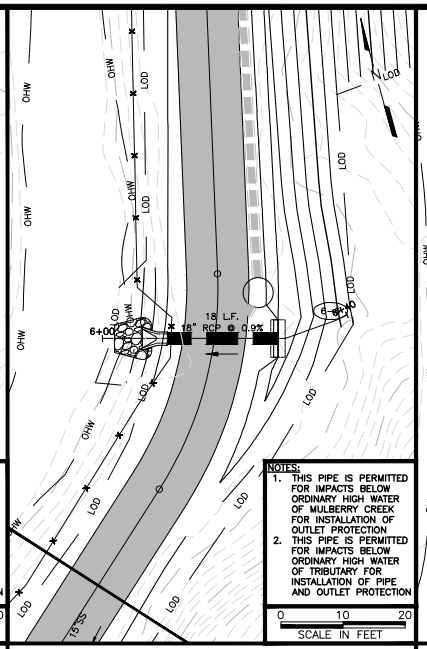

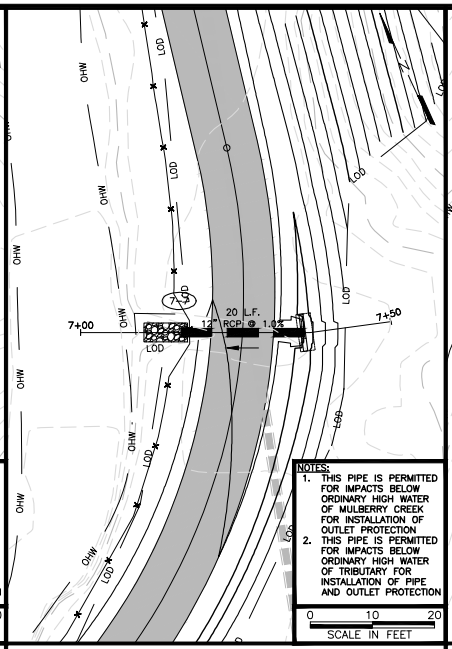

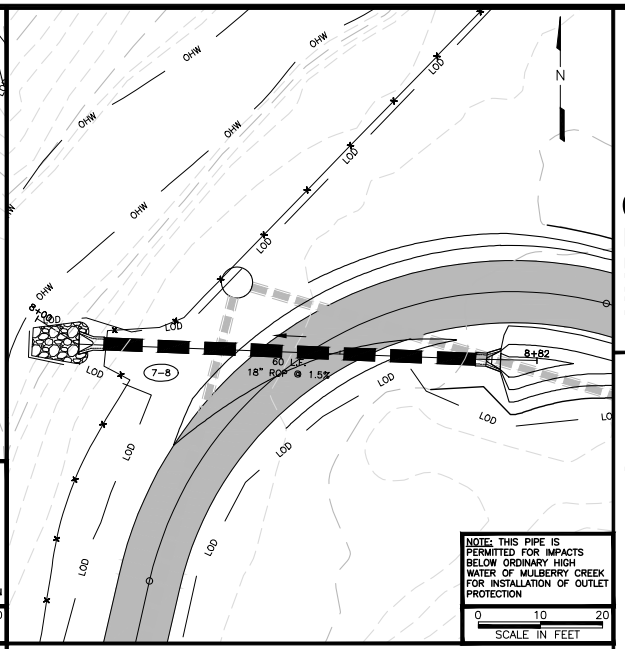

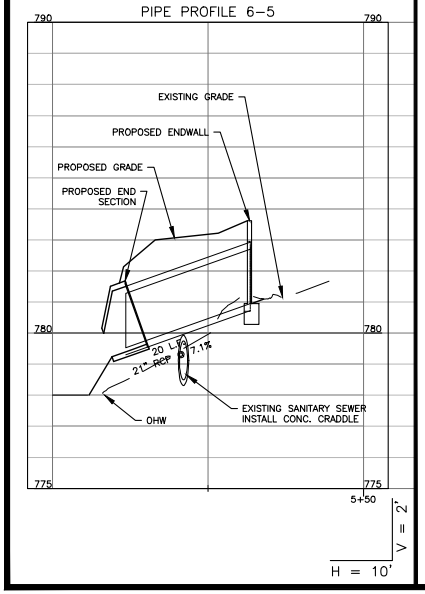

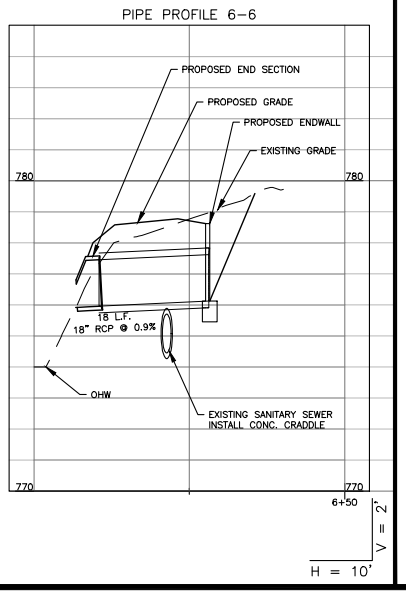

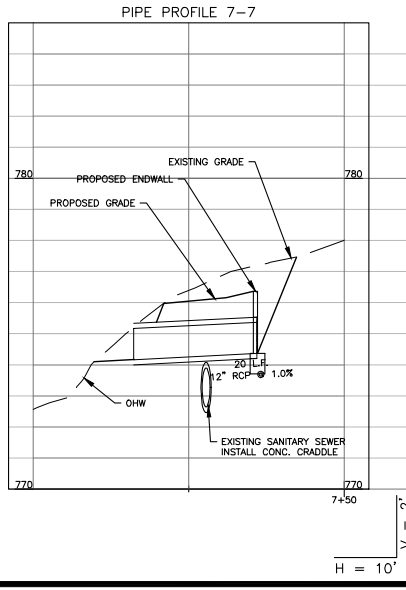

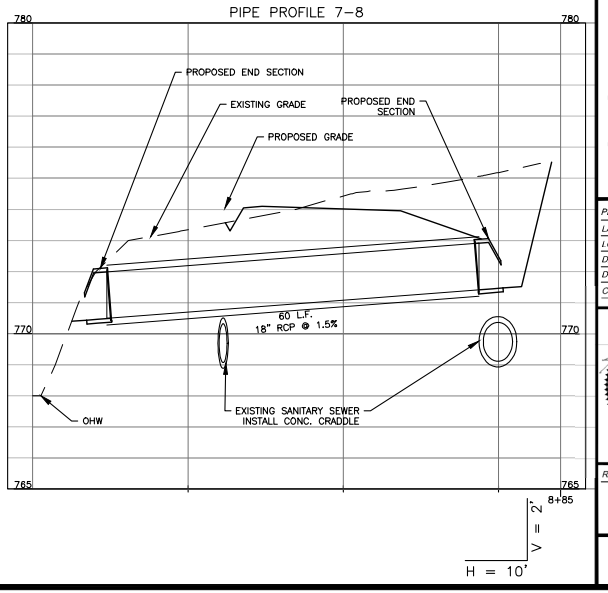

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STORM PLAN AND PROFILE

THE DICK & WILLIE PASSAGE

HENRY COUNTY, VA

PROJECT NO.	20171773
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DATE:	27 March 2020
DRAWN BY:	AWM, TWH
CHECKED BY:	SES

COMMONWEALTH OF VIRGINIA
JEREMY MICHAEL JOHNSON
Lic. No. 0402050112
10 August 2020
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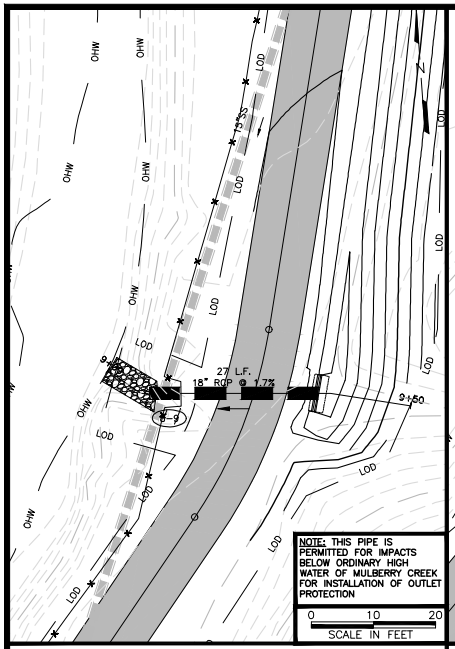

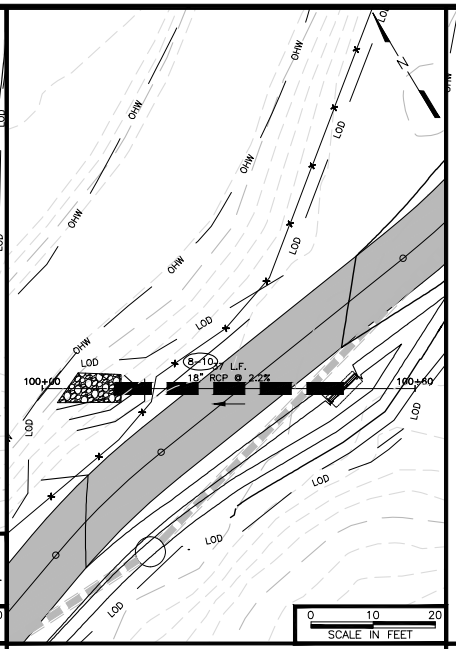

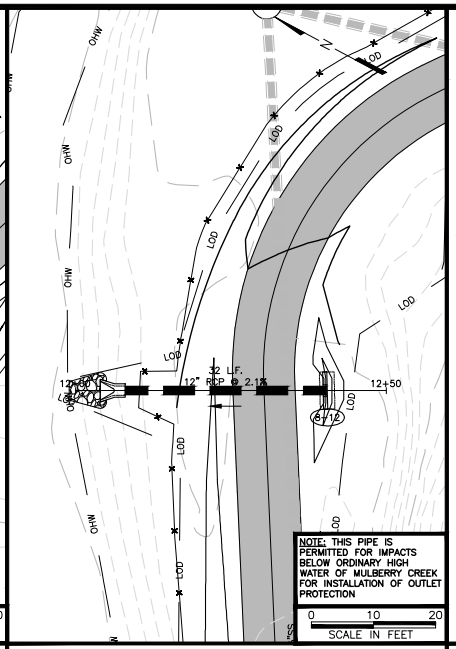

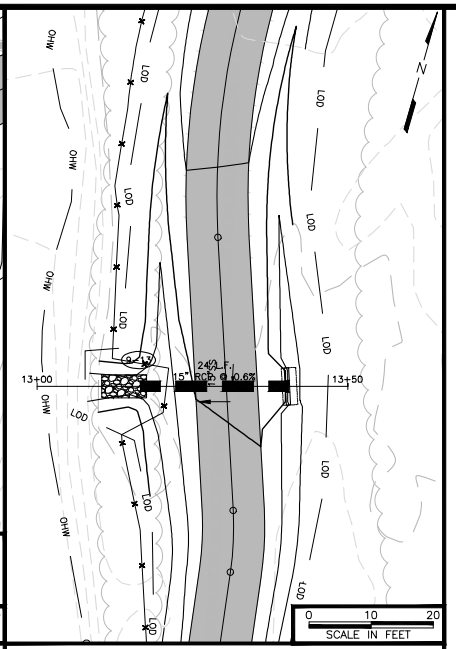

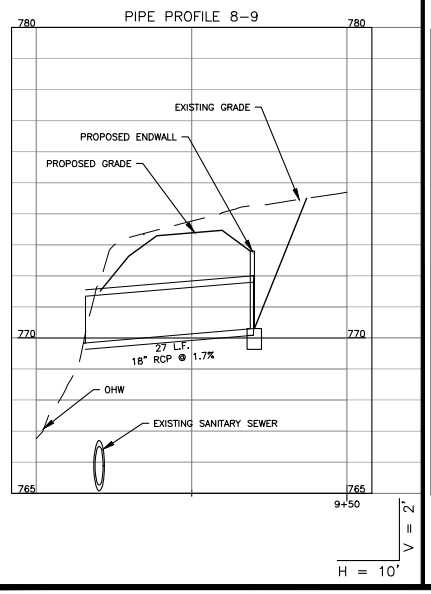

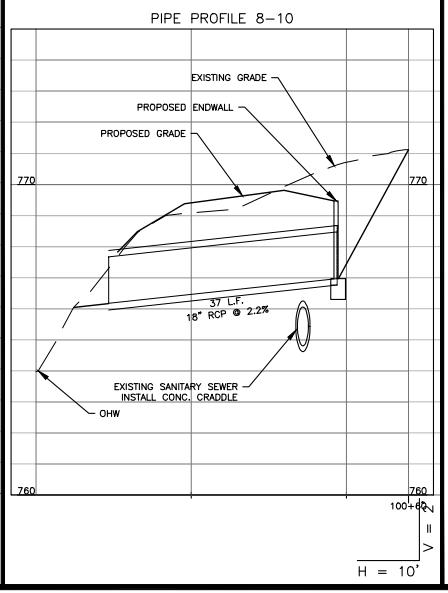

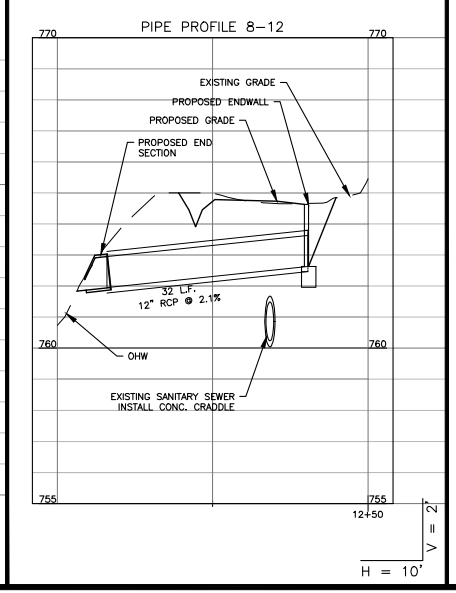

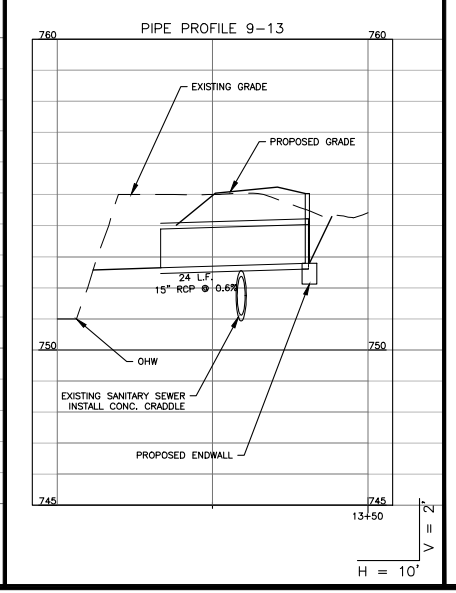

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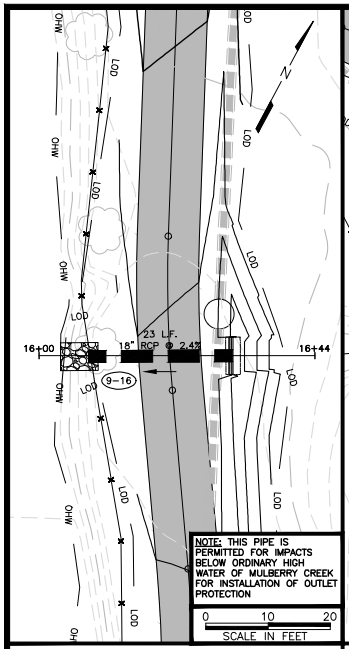

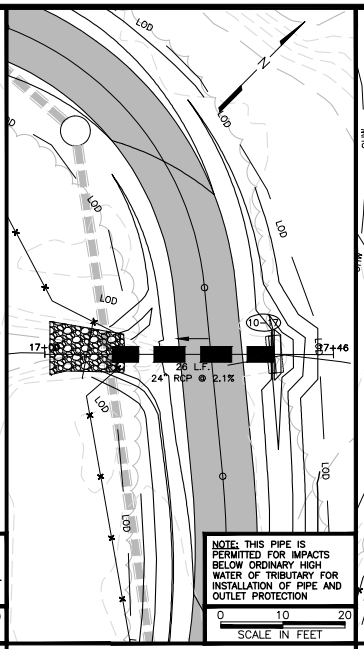

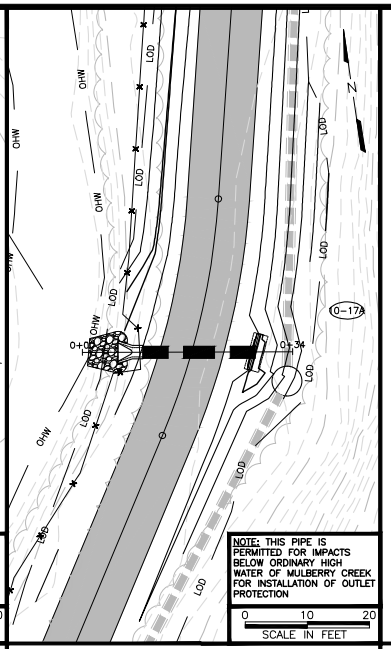

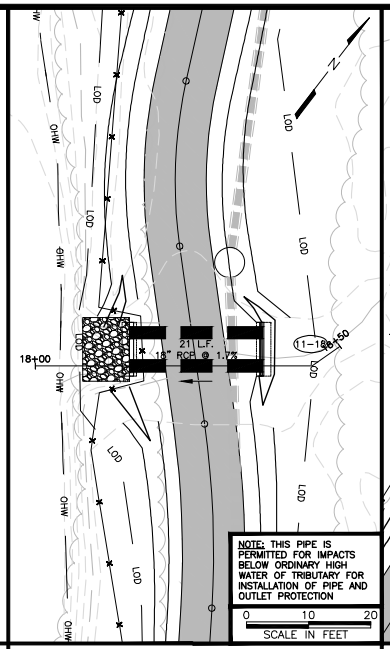

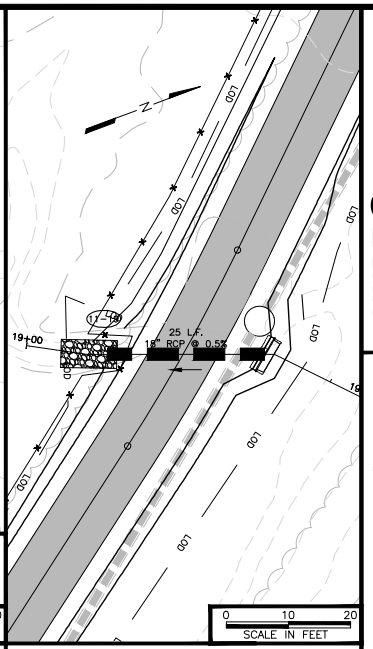

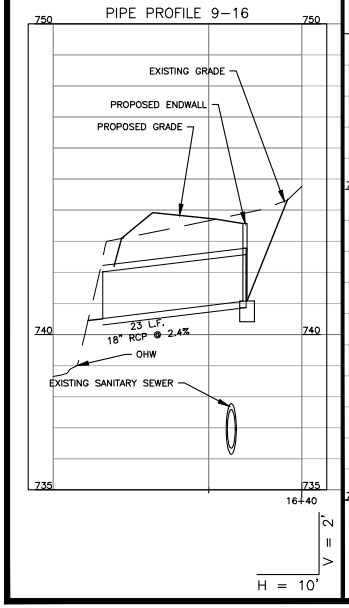

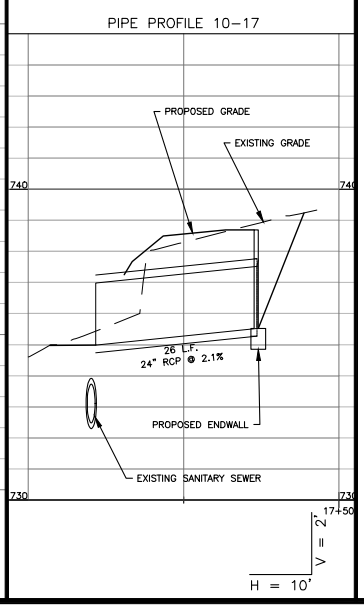

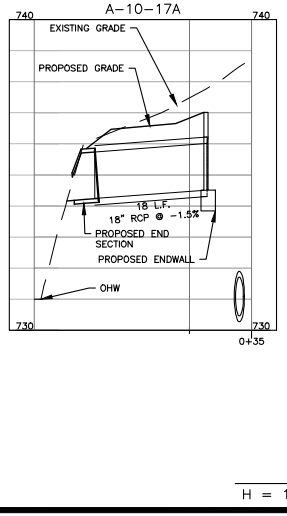

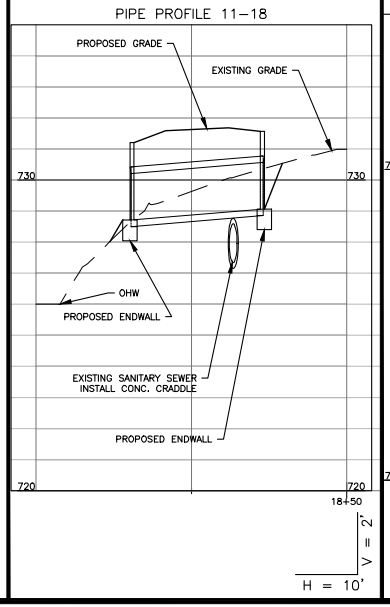

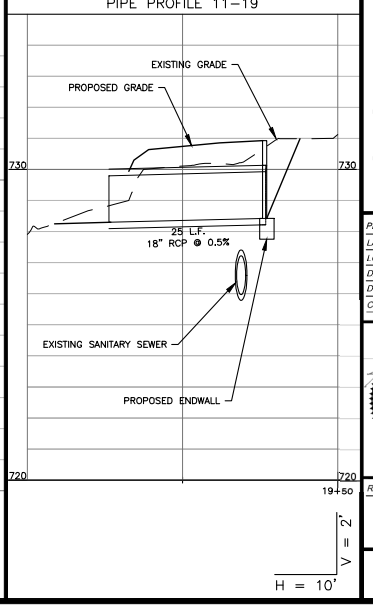

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